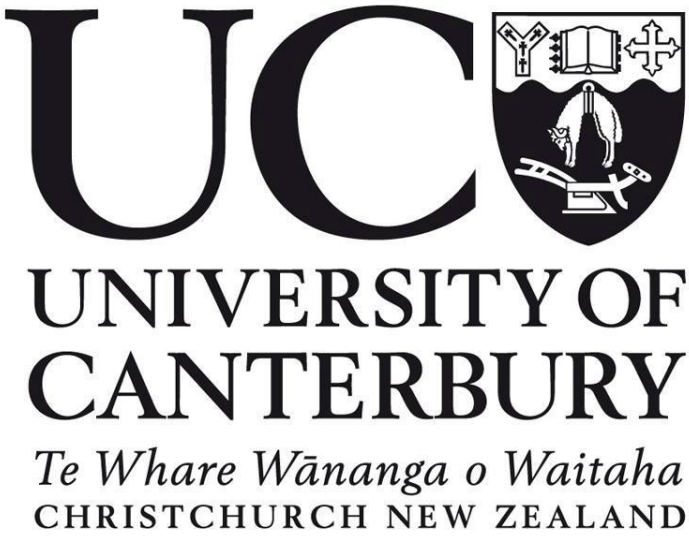

Language Attitudes, Accentedness and Comprehensibility: A Sociolinguistic Study of Arabic and Arabic-Accented English

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Abstract

This thesis investigates attitudes towards varieties of Arabic. A key characteristic of the sociolinguistics of the Arab world is that Standard Arabic, Classical Arabic, and Modern Standard Arabic co-exist in a diglossic relationship with vernacular Arabic varieties spoken in many different Arab countries. The spoken regional varieties are not always comprehensible to other speakers from different geographical regions. The linguistic study of Arabic has often focused on the relation between Fusha (Standard Arabic) and ammiyya (the vernacular spoken Arabic varieties). This thesis explores the relationship between Fusha and ammiyya varieties of Arabic, from several different perspectives. Firstly, the research employs a direct approach, using accent labels in a questionnaire and focusing on Jordanian participants' attitudes towards their dialects and dialects of other Arabic varieties. This is referred to as Study 1. Secondly, with an indirect approach, it uses listening experiments with audio clips of Arabic speakers to explore attitudes towards Arabic and Arabic-accented English in two different speech styles (reading vs. speaking). As well examining listener attitudes along the dimensions of 'status' and 'solidarity', I also examine listeners' ratings of 'comprehensibility' and 'accentedness'. This is referred to as Study 2.

The results obtained in Study 1 show that Jordanian participants hold different attitudes towards standard and non-standard varieties, as expected. Participants are, in general, proud of their own dialects, but overall, the Jordanian Urban dialect is the most preferred. However, participants stated that the Urban dialect should not be used in educational domains. The Bedouin dialect is seen to be the 'original dialect of Jordan society', conveying a sense of historical prestige. MSA was rated the highest in terms of characteristics such as 'power', 'understandability', and 'pleasantness', but it was rated lower on 'wealth' and 'toughness'. However, the results indicate possible change over time: younger participants rate MSA lower for standardness and prestige compared to older participants. When rating other dialects, Jordanian participants often ranked Jordanian dialects high for social characteristics such as 'pleasantness', but Jordanian dialects are not always ranked highest overall (Urban is ranked amongst the lowest for 'toughness'). For dialects from outside Jordan, Moroccan Arabic consistently received low scores. Taken together, these results increase our understanding of the attitudes of Jordanian speakers to their own and other Arabic dialects.

The results obtained in Study 2 showed listeners are more likely to correctly identify the regional origin of the speakers when speaking Arabic than when speaking English, and

in Arabic when speaking rather than reading. Perhaps surprisingly, listeners can identify the regional origin of some speakers even when using MSA (i.e. in the reading style). The Egyptian speaker was the most correctly identified, almost at ceiling rate in Arabic, and very often even when speaking English. The correct identification of the Egyptian dialect is likely due at least in part of the high frequency in which Egyptian Arabic is broadcast on television and in other forms of media. The other varieties were more often correctly identified in Arabic than in English, and more often correctly identified in Arabic speaking style than in Arabic reading style. For example, Moroccan Arabic was correctly identified 99% of the time in spoken Arabic, 40% in reading Arabic, but only 8% and 6% of the time in English reading and speaking, respectively. This shows, for example, that although MSA is often viewed as an invariant target, in actual fact phonological variation in production provides listeners cues about the regional origin of the speaker. In general, the attitude results in Study 2 are congruent with those for Study 1. For example, Moroccan Arabic is rated low for 'pleasantness' and 'educated' in Study 2, as in Study 1. The results also show that attitude scores can change if the regional variety is correctly identified or not. For example, the Jordan Urban speaker scored higher for 'standardness' and 'educated' when correctly identified than when incorrectly identified in Arabic reading style (and English speaking style, for 'standardness'). This suggests that when listeners believed they were listening to a Jordan Urban speaker, but they were not, their responses nevertheless matched beliefs about the Jordan Urban dialect (shown also in Study 1). Study 2 also examined the accentedness and comprehensibility of the speakers. In keeping with other results, Moroccan Arabic was rated the most accented. However, the Moroccan speaker in the English reading style was rated to be less accented when incorrectly identified than when correctly identified. This suggests again that listeners awarded ratings based on their beliefs about the regional origins of the speaker.

Taken together, these results advance our knowledge of language attitudes in the field of Arabic sociolinguistics, and show that dialect identification, attitude ratings, accentedness, and comprehensibility ratings should be studied in combination, to shed new light on their complex relationship.

Declaration

I assert that the content and the work presented in this thesis have been written by me unless mentioned in the text and no part of the material has been previously submitted.

Muneir Gwasmeh

To my family

To the spirit of my mother for her endless prayers, love, and support. May Allah grant her the highest place in paradise.

To my father for his inspiration, prayers, and encouragement. May Allah bless him and shower him with His mercy.

To my sisters: Manar, Noor, Aseel, Isra'a, and Amneh for their sincere wishes and prayers.

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Abbreviations

ADS: Arab Dialects

BD: Bedouin Dialect

CA: Classical Arabic

JB: Jordan Bedouin

JR: Jordan Rural

JU: Jordan Urban

H: High Status Variety

L: Low Status Variety

Irq: Iraq

Leb: Lebanon

MGT: Matched-guise Technique

Mo: Morocco

MSA: Modern Standard Arabic

NC: No Convergence

NS: No Significant

PCA: Principal Component Analysis

PC1: Principal Component 1

PC2: Principal Component 2

PC3: Principal Component 3

PC4: Principal Component 4

RD: Rural Dialect

SA: Standard Arabic

Study 1: Accent Labels

Study 2: Audio Stimuli

SVO: Subject Verb Object

UD: Urban Dialect

VGT: Verbal-guise Technique

VSO: Verb Subject Object

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Chapter 1: Introduction

1.1 Introduction

Arabic is a Semitic language spoken in the Middle East and North Africa, as well as elsewhere (Al Huneety, 2015).[1] It is the native language or a joint official language of more than 300 million Arab people worldwide, and an official language in more 20 Arab countries stretching from Western Asia to North Africa, including Jordan, Syria, Lebanon, Palestine, Iraq, Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Bahrain, Oman, Egypt, Sudan, Somalia, Djibouti, Yemen, Libya, Morocco, Algeria, Tunisia, and Mauritania (Watson, 2002, p. 8). Moreover, Arabic is spoken in many Islamic countries as the language of Islam and the Qu'ran (Saiegh-Haddad & Henkin-Roitfarb, 2014). Modern Standard Arabic (MSA) and Classical Arabic (CA) are Standard Arabic (SA) descendants, and function as a lingua franca among Arabic speakers regardless of their geographical areas or their regional variety. SA is the official language of Arabs in education, governments and print publications. CA can be found in the literature which is closely related to the Qur'an (the holy book of Islam) and pre-Islamic literature (Albirini, 2016; Watson, 2002). MSA has undergone several changes, including linguistic simplification, and the borrowing of technical terminology and loanwords from other languages due to translation (Saiegh-Haddad & Henkin-Roitfarb, 2014).

A key characteristic of the sociolinguistics of the Arab world is that MSA co-exist with vernacular Arabic varieties spoken in many different Arab countries, with each having different characteristics. The spoken regional varieties are not always comprehensible to other speakers from different geographical regions. The term 'Arabic' does not refer to any particular variety, Standard Arabic or Classical Arabic is referred to as *al-lugha al-'arabiyya al-fusha*, "the eloquent Arabic language," or for short *Fusha*, and vernacular or colloquial Arabic is referred to as *ammiyya*, such as Egyptian (*masri*), Syrian (*shami*), Jordanian (*urduni*), Lebanese (*libnani*), and so on (Haeri, 2000, p. 63). The linguistic study of Arabic has often focused on the relation between Fusha (Standard Arabic) and the vernacular spoken Arabic varieties (Abd-el-Jawad, 1986; El-Dash & Tucker, 1975; Hachimi, 2015; Herbolich, 1979; Hussein & El-Ali, 1989; Ibrahim, 1986). Research into attitudes towards Arabic varieties has been carried out in the field of Arabic Sociolinguistics (Abu-Haidar, 1989; Al-Raba'a, 2016; Albirini, 2016; Chakrani, 2010; El-Dash & Tucker, 1975;

[1] 'Arabic' in this dissertation without any specification refers to both Standard Arabic and Arabic varieties, as a general label. More specific terms will be used throughout the thesis as required.

Eltouhamy, 2016; Hachimi, 2015; Herbolich, 1979; Hussein & El-Ali, 1989; Kojak, 1983; Sawaie, 1987). Arabic has been quite frequently studied in sociolinguistics at least in part due to its well-known diglossic nature (Al-Raba'a, 2016; Bassiouney, 2009; Ferguson, 1959b; Suleiman, 1985). In diglossic language communities, there is a high status variety ('H') and at least one low status variety ('L'). Fusha, as the standard variety, is the 'H' variety of Arabic, and the various varieties of vernacular spoken Arabic are the 'L' varieties. Standard Arabic and spoken dialect varieties are, according to Owens (2001, p. 426), "structurally opposed to each other, and are not of equal status".

Of course in diglossic language communities, the relationship between 'H' and 'L' varieties is not a simple binary one. There are interesting complexities within each broad group. Some studies, for example, have discussed the relationship between French, standard Arabic, colloquial dialects, and the Berber language and their use in different domains. It was found that French and Standard Arabic constitute H varieties, while spoken vernacular Arabic and Berber represent L varieties (for more details, read Bentahila, 1981; Chakrani, 2010; Chebchoub, 1985). Chakrani (2010) shows that French is a preferred language of scientific and modern culture, Standard Arabic is preferred in religious domains and law, while spoken vernacular Arabic is used in informal contexts such as the market.

Variation and change within H varieties is also known. Linguistic changes in Arabic occurred from the nineteenth century onwards as Arabs have been in constant contact with Europe from the time of Napoleon's campaign in Egypt (Watson, 2002). This contact with Europe led to a flourish of translations from European languages, mostly French and English, into Arabic. Due to many different concepts borrowed from the source language, which has no equivalents in Arabic or the target language, new expressions, words, and other stylistic features began to gain access to Arabic. This type of Arabic diverged from SA and CA and led to the emergence of MSA, which can be understood as a CA development (Albirini, 2016; Watson, 2002). MSA has further developed due to modernization, westernization, mass media and academia, particularly in Cairo, Beirut, and Baghdad, regions where the language users maintain a standard variety approachable and accessible to all Arab-speaking people while remaining distinct from other regional colloquial varieties. Scholars have welcomed MSA as a step towards modernization and simplification of Arabic. Albirini (2016, p. 26) has pointed out that the difference between MSA and CA is lexical and stylistic rather than morph-syntactic or phonological, and that MSA has a more flexible word order. MSA is considered a prestige, H, variety.

Similarly, not all L varieties of regional, Colloquial Arabic are of the same status. While Colloquial Arabic varieties have no official status and do not have a standard orthography (Albirini, 2016; Biadsy et al., 2009; Kirchhoff & Vergyri, 2005), speakers may be familiar with a reasonably wide range of regional varieties, because, for example, speakers of different regional backgrounds or dialects may live together in a large city. Colloquial Arabic varieties are used not only in informal day-to-day interactions, but also in daily communication in broadcasts such as in sports, films, and some TV show programs. This could be said to bestow a certain degree of prestige on those colloquial varieties that are more familiar or distinctive to listeners. It is often claimed, for example, that the Egyptian dialect is the most recognised and understood of the Colloquial Arabic varieties because of the popularity of entertainment media and movies produced in that dialect (Albirini, 2016; El-Dash & Tucker, 1975; Hachimi, 2015; Herbolich, 1979). Similarly, Moroccan Arabic is said to be among the most unintelligible or strongly accented variety due to its linguistic distinctiveness from other varieties, in part because Moroccan Arabic is affected by Berber and French languages (Albirini, 2016). These varieties would, nevertheless, be considered low status, L, varieties.

The relationship between a language variety being 'strongly accented' or 'unintelligible' and it being perceived to be low status is a relevant one. Studies of 'accentedness', which is a measure of how 'strong' an accent is perceived to be, and studies of 'comprehensibility', which is a measure of how easy to understand a speaker is perceived to be, are mostly carried out in the field of Applied Linguistics and second language acquisition. However, accentedness and comprehensibility ratings are likely connected in some way to other types of attitudinal ratings. Is a variety that is rated as 'strongly accented' also rated as low status? Is a variety that is viewed to be 'comprehensible' also rated as being high status? Indeed, a considerable amount of research (Dewaele & McCloskey, 2015; Dragojevic et al., 2017; Gass & Varonis, 1984; Munro & Derwing, 1995b) has shown that a foreign accent signals different level of social status. For example, a foreign accent (L2) tends to be rated less on status-related characteristics (e.g., education, health, and intelligence) than native standard-accent. Moreover, negative attitudes towards foreign accents or particular accents are triggered by the comprehensibility of the speaker. Other studies (Dragojevic et al., 2017; Ryan et al., 1977; Tsalikis et al., 1991) looked at speakers with heavy accents maybe evaluated more negatively on both status and solidarity-related traits than speakers with foreign mild-accent because the heavy accent is difficult to comprehend. Varieties of Arabic provide a useful testing ground for issues like these.

However, most of the work conducted on perceived accentedness and comprehensibility deals with English native speakers (Derwing & Munro, 1997; Hayes-Harb & Watzinger-Tharp, 2012; Munro & Derwing, 1995a), or second-language speakers of English (Dragojevic et al., 2017; Gnevsheva, 2015; Hayes-Harb & Watzinger-Tharp, 2012; Ingvalson et al., 2017; Kaye, 2007; Lindemann, 2002; Trofimovich & Isaacs, 2012; Zhang, 2010). This study examines comprehensibility and accentedness in L1 Arabic and L2 English.

The examples discussed so far show that while there are two broad variety groups in terms of prestige (which we might call the H and L varieties), there is variation within these groups. Not all H varieties are equal, and not all L varieties are equal either. The examples have also suggested a connection between traits such as accentedness and perceived high/low status. Against this background, this thesis focuses on language attitudes, and the social evaluation of language in different speech styles. This thesis explores the relationship between Fusha and ammiyya varieties of Arabic, from several different perspectives. Firstly, the research employs a direct approach, using accent labels in a questionnaire and focusing on Jordanian participants' attitudes towards their dialects and dialects of other Arabic varieties. This will be referred to as Study 1. Secondly, with an indirect approach, it uses listening experiments with audio clips of Arabic speakers, to explore attitudes towards Arabic and Arabic-accented English in two different speech styles (reading vs. speaking). As well examining listener attitudes along the dimensions of 'status' and 'solidarity'(El-Dash & Tucker, 1975; Herbolich, 1979). I also examine listeners' ratings of 'comprehensibility' and 'accentedness' (Munro & Derwing 1995a). This will be referred to as Study 2.

Study 1 uses a direct questionnaire methodology to explore participant attitudes to MSA and a range of Colloquial Arabic varieties. The questionnaire, with responses from 667 participants in Jordan, uses dialect labels as stimuli to explore attitudes towards MSA, including whether they have changed over time, and attitudes towards the three dialect groups in Jordan (Bedouin, Urban, Rural), and their perceived closeness in prestige terms to MSA. The questionnaire also explores the attitudes of Jordanian participants towards several other varieties of Colloquial Arabic (e.g. Iraqi Arabic, Egyptian Arabic, Moroccan Arabic), in order to understand variation in attitudes across a group of L varieties. Study 1 shows the Jordan Urban dialect was rated the most prestigious and preferred dialect in Jordan, the Jordan Bedouin dialect was rated as the original dialect of the Jordanian society, and the MSA variety was rated the highest on understandable and power-related status traits. The

methodology for Study 1 is presented in Chapter 4 (section 4.1), and the results are in Chapter 5.

Study 1 sets the foundation for Study 2 which, as noted above, uses an indirect methodology to further understand listeners' attitudes to H and L varieties of Arabic. Study 2 uses audio clips from speakers of 7 different Colloquial Arabic varieties (e.g. Egyptian Arabic, Iraqi Arabic, Moroccan Arabic). Each speaker talks in 4 styles: MSA, Colloquial Arabic, Spoken English and Read English (the latter two styles are intended to approximate the standard/colloquial split in Arabic, although it is not exactly the same). 449 listeners rated these clips for several characteristics, which facilitates an analysis of their attitudes towards H and L varieties. An important feature of Study 2 is that listeners were not told where the speaker was from and were instead asked to identify each speaker's regional origin. The reason for this was to understand if there are noticeable differences in attitude scores when a listener knows the origin of the speaker as opposed to when they do not. Study 2 also examined listeners' attitudes on a number of status and solidarity-related traits (e.g. 'standardness', 'education', and 'kindness'). The reason for this was to understand if there are noticeable differences in attitude scores when rating speakers in Arabic and Arabic-accented English, and in reading vs speaking styles, and whether listeners get the correct identification correctly or not affect the ratings. Study 2 also examined the comprehensibility and accentedness of the speakers when reading and speaking in Arabic and English, and as noted above whether listeners get the correct identification correct or not affect the ratings. Moreover, this study focuses on language varieties, style, identification, comprehensibility and accentedness. Study 2 also discusses issues related to language varieties and styles, e.g., being identified correctly or not, being comprehensible or not, sound accented or not could affect the status of employability or not (for more discussion, see chapter 3 section 3.3). The methodology for Study 2 is presented in Chapter 4 (section 4.2), and the results are in Chapter 6.

1.2 Research questions

Study 1 aims to answer the following research questions:

1. What attitudes do Jordanian people hold towards MSA variety, Urban, Rural and Bedouin Jordanian spoken dialects in terms of prestige, preference, and dialect heritage?
2. What social variables (if any) seem to be significant in predicting Jordanians' attitudes towards Standard Arabic and Jordanian Colloquial varieties?

3. What language attitudes do Jordanian people hold towards Arabic varieties in terms of status and solidarity?

Study 2 aims to answer the following research questions:

4. To what extent can listeners correctly identify Arabic varieties being spoken when listening to audio clips:
    a. in Arabic and
    b. in English
5. What attitudes do Arab listeners have towards:
    a. reading and speaking speech styles of both standard and non-standard Arabic varieties?
    b. reading and speaking styles when produced by Arab speakers?
6. How accented and comprehensible are speakers of Arabic varieties whether speaking:
    a. in Arabic and
    b. in English.
7. How does a listener's attitude affect their accentedness and comprehensibility ratings of speakers?

1.3 Structure of the thesis

There are seven chapters in this thesis. The introduction chapter has presented a general overview of my thesis project.

Chapter 2 focuses on the literature of language attitudes. It discusses the nature of language attitudes and offers a brief description of the attitudinal behaviourist and mentalist approaches. It also examines the importance of language attitudes, and critically reviews previous studies of language attitudes and significant findings from research conducted into English varieties' attitudes. The chapter then details the important research on Arabic and Jordanian varieties. The chapter also examines the standard and prestigious varieties of Arabic.

Chapter 3 offers a comprehensive review of the literature on accentedness and comprehensibility, and language identification of speakers' accents. It examines dialect classification in Arabic, including standard and non-standard varieties, and general characteristics and aspects including phonological features and lexical items in the selected Arabic varieties. I critically review previous studies of language attitudes focusing on

language perception, foreign accent, comprehensibility, job hireability and language identification. The chapter presents the major findings of research conducted into attitudes towards comprehensibility and accentedness.

In Chapter 4, I present the methodologies of Study 1 and Study 2. I discuss methodological approaches used in similar studies and present a detailed account of the main investigative approaches used in this study. I also describe the number of participants of Study 1 and Study 2 who took part, along with information about the speakers for Study 2 and their social background. I also outline the research questions of the second project of this study. Also, in this chapter I offer an overview of the speech samples selected for use as stimuli in Study 2. The chapter outlines the statistical tools used to analyse the questionnaire data, including the statistical modelling procedure.

Chapter 5 presents the results of Study 1. It presents an analysis of attitudes towards varieties of Arabic based only on accent labels. The chapter is in three sections. Section one focuses on the Jordanian participants' attitudes towards their own dialects and towards MSA, by directly asking questions about their dialect preferences. Section two investigates their attitudes based on their responses to several statements (grouped together following a Principal Components analysis into four groups). Section 3 of this chapter presents the attitudinal responses of the participants towards 17 Arabic varieties.

Chapter 6 presents the results of Study 2. Firstly, it outlines the results of the language identification section, to show how accurately listeners can identify the origin of the speakers in the audio clips. Secondly, it presents the results of attitudinal scores based on status and solidarity-related traits. Following this, it presents the results of the speakers' comprehensibility and accentedness ratings, across the different speech styles (reading and speaking) in Arabic and in English. The last section presents the results if the listener's attitude affects the ratings of accentedness and comprehensibility and whether the speaker's correct/incorrect identification could affect the ratings. A detailed discussion followed each question result.

Chapter 7 summarises the main findings, discusses the theoretical and methodological implications, limitations and recommendations of the study and contributions.

Chapter 2: Language Attitudes Studies

In chapter 2, I will introduce the nature of language attitude and the definition of attitudes. I will then begin briefly with a historical overview of language attitudes research, provide some attitudinal studies, and review various language attitude studies in English and Arabic, and those conducted on Arabic which are relevant to my research.

2.1 The nature of attitudes

Attitude studies have been a central to many fields, such as sociology, social psychology, education, sociolinguistics, etc. (Agheyisi & Fishman, 1970, p. 137; McKenzie, 2006, p. 23). In this section, the definition of attitudes is provided alongside other related concepts.

2.1.1 Definition of attitude

Despite the many research studies on attitudes, attitude has been defined differently, reflecting different angles of research interest, semantic disagreements and differences concerning the generality and specificity of the term (Agheyisi & Fishman, 1970, p. 137; Baker, 1992, p. 11; Tawalbeh, 2017). Attitude is an evaluation of things held in mind about objects (Bohner & Dickel, 2011, p. 392), and is therefore not directly observable but inferred from observable responses (Eagly & Chaiken, 1993). The definition of attitude is based on the concept the research is being employed to quantify. Another definition that serves this research objective is "a tendency to evaluate an entity with some degree of favor or disfavor" (Eagly & Mladinic, 1989, p. 543). This definition shows what constitutes an attitude and requires further investigations.

Language attitude research can be thought about in relation to at least two social psychological approaches: the mentalist and the behaviorist view (Agheyisi & Fishman, 1970). The mentalist view is defined as "mental and neutral state of readiness which are not directly observable but inferred from the subject's responses", whereas the behaviorist definition "locates attitude in actual overt behavior or responses" (Agheyisi & Fishman, 1970, p. 138).

People have different attitudes about language, dialect and accent. Attitude can be divided into three components: cognitive/knowledge, affective/evaluative, and conative/action (see Agheyisi & Fishman, 1970; Brewer, 2013; Cargile et al., 1994). The cognitive category refers to beliefs or people's thoughts about the nature of the object and

its connection to other objects (Redinger, 2010; Serrarens, 2017). This belief is reflected in someone's opinion that learning, e.g., the Welsh language, leads to getting a better job in Wales (Garrett et al., 2003, p. 3). This belief is embodied in having a strong connection between learning the Welsh language (first object), which results in finding superior work opportunity (second object). However, (Fishbein, 1966, as cited in Agheyisi & Fishman, 1970) distinguishes between attitude and belief. He states that the former comprises an affective component, while the latter comprises both cognitive and conative components. Ladegaard (1998) used the cognitive attitudes about varieties of English in measuring different components of attitudes, such as status, personal integrity, social attractiveness and competence of the speaker. Affective responses involve feelings and emotions about an attitude object such as a person's feeling of enthusiasm for poetry written in the Welsh language (see Garrett et al., 2003, p. 3). Finally, the third component of attitudes is behavioral, which has been described as leading to overt actions and reflecting people's behavioural intentions that includes people's desire to act, for example, a positive attitude towards the Green Party could result in donating money to the Green Party election campaign and involves actions towards an attitude (Redinger, 2010, p. 46; Serrarens, 2017).

2.2 Language attitudes

Language attitudes are an important part of studying languages and a source to understanding the joint beliefs about language varieties spoken by speakers in a given speech community (Albirini, 2016). Language attitudes in the Arab world centers mostly on standard and prestige varieties as Arab speaker's attitudes towards Standard Arabic and Colloquial Arabic. Speakers are judged based on what language varieties they speak. For example, several studies have shown that Arab speakers used to have positive attitudes towards the standard Arabic and the urban dialects (Abd-el-Jawad, 1986; Abu-Haidar, 1987; Al-Raba'a, 2016; Eltouhamy, 2016; Herbolich, 1979; Saidat, 2010; Sawaie, 1994). Research on language attitudes focuses on assessing and evaluating attitudes along various dimensions of a given language, such as dialect or accent, concerning the status of the language in society (Redinger, 2010). Language attitude is an umbrella term used by a broad range of empirical studies that have focused on attitudes to language variation, dialect and speech style, attitudes towards languages, minority languages, attitudes to learning a new language, attitudes towards different dialects and accents, as well as attitudes to language preference and others aspects of language (Baker, 1992, p. 29).

2.2.1 The importance of language attitudes in sociolinguistics

Language attitudes have not only been studied by social psychologists who are particularly interested in evaluative reactions and social behaviors, but also by sociolinguists who are interested in how individuals evaluate language varieties (McKenzie (2006, p. 46). They are interested in the structure of the language and its relationship to social constructs and processes (Campbell-Kibler, 2006, p. 57).

Language attitudes are considered a major factor influencing behaviour and perceptions; for example, language attitudes influence language behaviour in several ways, and can contribute to sound changes, defines speech communities, reflects intergroup communication, and helps determine teachers' perceptions of students' abilities (McKenzie, 2006, p. 47). For example, language attitudes towards an accent may illustrate why certain speakers of regional dialects or minority language speakers are regarded positively or negatively in different disciplines, in the labour market, health, court, and education (Garrett et al., 2003, pp. 12-13). The study of language attitudes helps reveal how linguistic variables determines these attitudes.

Another important reason to further study language attitudes, is as McKenzie (2006) points out: language attitudes may influence the spread or decay of languages or dialects. McKenzie argues that English as an international language has positive attitudes that help its spread worldwide. He also stated that its spread is not due to wide use, but instead to the attitudes of individuals towards it (McKenzie, 2006, p. 47).

Moreover, the importance of language attitudes has attracted researchers to study language acquisition. Although most language attitudes studies have centered their attention on native speaker perceptions of language varieties, non-native speakers' perceptions are considered necessary in by sociolinguists, as they investigate native speakers and non-native speakers' perceptions of language varieties and raise the awareness of language learners or users towards a language's linguistic features. As mentioned above, positive attitudes towards a language are an essential factor for its worldwide spread, for example, English as an international language and Arabic as a language of the Qu'ran for all Muslim people worldwide. The study of language attitudes focuses on specific attitudinal areas in language attitude studies, e.g., it ranges from attitude to language variation, dialect and speech styles to learning a new language, to attitudes to language preference (see Garrett et al., 2003, p. 12).

The importance of the study of language attitudes is to study the linguistic situation in the Arab world. There has been an insufficient investigation into Standard Arabic and

colloquial Arabic varieties in terms of status and solidarity, on the level of correctness and identification, and how people perceive each Arabic language variety. I will elaborate on societal, direct and indirect approaches in section 2.3 below. The direct approach comes in the form of the questionnaire (see Coupland & Bishop, 2007) from work conducted in the UK, as well as match and verbal guise techniques, for example, in Egypt (see El-Dash & Tucker, 1975; Eltouhamy, 2016; Herbolich, 1979), in Jordan (Hussein & El-Ali, 1989). the effect of sex-related differences on language prestige used in Syria and Iraq (Abu-Haidar, 1989; Kojak, 1983), in addition to attitudes towards varieties of English and attitudes towards varieties of accented speech in English in terms of status and solidarity (Ahmed et al., 2014; Garrett et al., 2005; Haarstad, 2015; Hiraga, 2005; Markel et al., 1967; McKenzie, 2006). It also aims to cover the Standard Arabic variety and selected colloquial Arabic varieties. Many research studies have worked on various languages, specifically investigating attitudes towards linguistic variation in several languages and contexts, and many studies have been conducted on varieties of English (Bishop et al., 2005; Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005), attitudes towards English and Asian (Bishop et al., 2005; Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005; Lindemann, 2000; McKenzie, 2006; McKenzie et al., 2016; Zhang, 2010), attitudes towards Mexican Spanish language varieties (Brewer, 2013), and attitudes towards standard and nonstandard Arabic varieties (Ferguson, 1959a; Herbolich, 1979; Hussein & El-Ali, 1989; Ibrahim, 1986; Kojak, 1983; Sakarna, 2005; Schmidt, 1986).

2.3 Main approaches to language attitudes measurements

Three main approaches and techniques have been used in language attitude research, identified by many researchers to help establish people's thoughts and feelings when studying people's attitudes towards language use (Soukup, 2012). These three approaches are divided into three broad categories: Societal treatment, the direct approach, and the indirect approach. This section critically reviews these approaches and outlines some advantages and disadvantages of each.

2.3.1 Societal treatment approach

The societal treatment approach or content analysis approach has been marginalized in language attitude research (Garrett, 2010). This approach is dependent on how researchers may infer attitudes by analysing the content of texts and sources in the public domain, such as prescriptive (or proscriptive) texts, language policy documents, media texts and various

kinds of advertisements. Attitudes are inferred from various kinds of observed behaviours and sources rather than eliciting responses (Garrett, 2010, pp. 51-52). Study themes under this approach are qualitative and are carried out through people's observation, participant observation and ethnographic studies (Garrett, 2010, p. 142). Examples of the societal treatment approach in action can be seen in studies that investigated attitudes towards English in Africa by examining letters to editors in African newspapers focusing on specific language issues (Schmied, 1991), and attitudes towards gender differences and speech in etiquette books and language use in cartoons (Kramarae, 1982; Kramer, 1974). Kramer (1974) investigated the stereotypes of women's speech by looking at how males and females' speech was represented in cartoons in large-circulation magazines. Other studies have looked at government and educational policy documents, the use of dialect in novels and newspaper-style books, and the use of the language of consumer advertisements and linguistic landscapes (Garrett, 2010, p. 142).

2.3.2 The direct approach

One of the most extensively used methods for assessing language attitudes is the direct approach. This approach is characterized by 'obtrusiveness' because of its direct elicitation of information from respondents about, e.g., language evaluation, preference, beliefs and knowledge of an attitudinal object (Garrett et al. (2003, p. 16), since eliciting participants' views by asking direct questions to report their attitudes is directly measured through recorded interviews, surveys, and questionnaires. These techniques are the most important features of the direct approach (Garrett et al., 2003, p. 25).

Language attitudes, in the direct approach, are "elicited explicitly which comes in the form of questionnaires or surveys" (Ivkovic, 2013, p.2) in which respondents themselves express their reactions and attitudes about different languages or language varieties (Eltouhamy, 2016; Garrett, 2010). The direct method is overt and comprises a variety of direct questions designed for large groups of participants.

The direct approach has been extended to study people's attitudes towards language accents and accents associated with other countries (Coupland & Bishop, 2007; Giles, 1970). In Jordan, Al-Raba'a (2016) studied participants' attitudes towards two spoken varieties, by employing the direct approach. Henerson, Morris, and Fitz-Gibbon (1987) classified interviews and questionnaire responses by word-of-mouth or information provided orally and written responses. Examples of the type of word-of-mouth technique include interviews, surveys, and polls. For example, the questions may be prearranged, but the interviewer is

independent in tracking interesting responses when needed. Interviewers are likely to take notes of the respondents' responses and then write a summary upon completing the meeting. A survey refers to a highly structured meeting that is not essential to a face-to-face meeting and can occur over the phone. A poll is a headcount where respondents are presented with a limited number of options, such as, 'are you for or against?' The category of written response includes questionnaires and attitude-rating scales. Questionnaires require answers to various questions, while an attitude-rating scale is designed for a specific type of questions and a special type of questionnaires (Henerson et al., 1987, p. 27). However, Garrett et al. (2003) argued that attitude-rating scales are an integral part of questionnaires in language attitudes (p.26).

Perceptual dialectology (Garrett et al., 2003, p. 44; McKenzie, 2006, p. 56) falls under the direct approach. It was developed by Preston (1989) under the name of folk-linguistics, focusing on speakers' beliefs regarding regional variation (Campbell-Kibler, 2006, p. 59). Preston's aim of perceptual dialectology is to broaden the scope of language attitude research by studying the attitudinal component of the communication ability of ordinary people, attention given to the geographical distribution of speech, beliefs about the standard and preferred varieties, the difference between local varieties and surrounding varieties, and anecdotal accounts of how such beliefs and strategies develop and persist (Garrett et al., 2003, p. 45; McKenzie, 2006, pp. 56-57). The most common data collection task in perceptual dialectology involves participants being asked to draw lines on a blank map around areas where speakers believe they speak the same regional language variety. Other data tasks include asking participants to rate recorded speech for correctness and pleasantness, reflecting the dimensions of status and solidarity, ranking subjects or regions on a scale depending on the perception of how the dialect is different from my own, to guessing the regional area or the country of the speaker according to speech recordings (Garrett et al., 2003, pp. 45-46; McKenzie, 2006).

An attitude-rating scale is a tool used for measuring an individual's attitude. There exist a variety of alternative-rating scales to measure people's attitudes towards not only language but also about other unrelated-language aspects. Likert scale can be used in direct and indirect methods. Researchers apply a five-point scale or seven-point Likert scale in their research. It is believed that a seven-point scale is more sensitive to differences in measurement, and it plausibly permits participants to specify their neutrality (Garrett et al., 2003, p. 41). Some researchers prefer to use even-numbered scales that force participants to one way or the other towards agreement or disagreement in judgment statements. A criticism

of the even number is controversial, which does not include a mid-point. One popular attitude measurement method comprises judgment statements where subjects may be asked to agree or disagree using five-point or seven-point scales (Baker, 1992).

2.3.3 The indirect approach

As mentioned in the previous section, the direct approach to researching attitudes expects participants to account for their attitudes towards an object of interest, and responses are retrieved from direct questions in the form of interviews or questionnaire. However, these direct attitude responses may not reflect speakers or participants' language attitudes (Redinger, 2010). The purpose of the indirect approach, is a reflection of the criticism of the direct methods, in researching attitudes is made less apparent to the participants (McKenzie, 2006, p. 58). The approach used in measuring language attitudes is the 'speaker evaluation paradigm', known as the 'matched-guise technique' (Lambert et al., 1960; Soukup, 2012). Thus, an indirect approach has been developed to overcome this deficiency. A typical method of the indirect approach is to listen to recording by different speakers representing different guise in different languages and dialects, then ask listeners to rate speakers on semantic differential scales along with different traits, such as social, wealth, intelligence and religiousness (Tawalbeh, 2017). This approach is considered misleading, as respondents think the survey or the questionnaire is investigating or rating an aspect of a language rather than investigating their attitudes. Therefore, there is ethical consideration to attend to when conducting an indirect approach. One potential way to deal with the deception of the respondents is to inform the respondents on the purpose of the research before they participate in the experiment (McKenzie, 2006, p. 58). One method of indirect approach requires participants to listen to and evaluate recorded speakers whose social group labels are hidden (Cargile et al., 1994, p. 213). This kind of approach can cover several items in terms of solidarity and status; for example, the listener may be asked to rate the speaker if he/she is friendly or intelligent. This approach of measuring attitudes was popular with social psychologists. It was considered 'less sensitive to reflection and social desirability biases' than those studies which obtain responses in the form of a questionnaire (Cargile et al., 1994, p. 213).

The use of indirect technique when measuring language attitudes is often associated with the most frequently employed technique: the matched guise technique (MGT), as developed by Lambert and his associates (Lambert et al., 1960). MGT accounts for one of the most widespread methods of elicitation of attitudinal data (McKenzie, 2006). Responses

in MGT are typically collected via a questionnaire using 'semantic differential scales' (Osgood et al., 1957); for further information, see section 2.5 below). The MGT involves asking respondents or judges to evaluate the speakers' personalities after hearing them read or speak the same passage in different dialects or language varieties. This technique is called 'guise', because the recordings are done by the same person, which is not revealed to the respondents (Zhang, 2010). This technique can allow respondents to hear samples across a list of semantic-differential scales or speech samples in different varieties, so as to judge these speech samples based on criteria such as speaker's education, intelligence, and others (Eltouhamy, 2016; McKenzie, 2006; Redinger, 2010). According to El-Dash and Tucker (1975, p. 33), "this technique has been used in a wide variety of settings to compare the reactions of judges who hear the same speaker reading a passage in contrasting languages, dialects, or accents". The procedure is that participants listen to audio recordings of the same passage read out only by a single speaker using a variety of accent guises, the participants rating each speaker on personality traits (Garrett et al., 2003; Hussein & El-Ali, 1989; McKenzie, 2006; Sawaie, 1994), or, alternatively, audio recordings where several speakers represent different dialects, accents or language varieties, speaking in their mother tongue (Verbal Guise Technique) (Dragojevic et al., 2017; McKenzie, 2008), without being told that they are evaluating language varieties. Then, listeners are asked to complete a questionnaire to evaluate each speaker on several factors. Hussein and El-Ali (1989) adopted the matched-guise technique, which investigated the attitudes of university students towards different varieties of Arabic, including MSA and Jordanian spoken dialects. Listeners were asked to listen to four guises and answer questions related to social status, loyalties to the varieties a speaker speaks, variety preference, and finally associate a language variety with certain professions. A short text was read by the same speaker four times in different accents. A change was made on the /q/ sound in each text, replacing it with local spoken Jordanian dialects, and, likewise, different lexical items were used. Another example by Dragojevic et al. (2017) used the matched-guise technique with two speakers representing two languages, Indian and Chinese. Each speaker spoke English with a heavy accent and a mild accent. Later, listeners were asked to evaluate the accent of each speaker in terms of status and solidarity. Ahmed et al. (2014) employed the verbal-guise technique to measure language attitudes towards six varieties of native and non-native English accents (American, British, Iraqi, Malaysian-Chinese, Malay, and Malaysian-Indian), and listener familiarity with a foreign accent. First, listeners were asked to evaluate each speaker on several differential semantic traits, and second, to identify each speaker's accent. The verbal-guise technique

includes speakers representing authentic varieties from a number of speakers, for more detail (see Chapter 4, section 4.4.1).

The indirect approach is argued to be the dominant approach applied in language attitude research, and it comes in the form of interviewing and recording (Eltouhamy, 2016; Garrett et al., 2003). However, it is designed to be less clear to participants that attitudes are being investigated, and so the attitudes are elicited below the level of conscious awareness (McKenzie, 2006). MGT aims to control the manipulated independent variable (e.g., accent) where a single speaker is required to be recorded reading the same factual text or passage in a range of accents. In MGT, respondents are asked to listen to a number of recordings and evaluate speakers on a semantic-differential scale, one of the most dominant in evaluation studies Zahn and Hopper (1985), on the dimensions of status and solidarity with several personality traits (e.g., educated/uneducated, honest/dishonest) employed a semantic-differential scale using odd number to provide listeners with neutrality on the scale (McKenzie, 2006, p. 59). Listeners were asked to listen to several different speakers, while in reality it was only one speaker recorded speaking in different accents.

The employment of MGT in language attitude studies has several benefits. Of these benefits, the data collected using MGT is suitable for statistical analysis, such as factor analysis (principal component analysis) to reduce the number of variables in the study. In speech variety studies, the main dimensions have been created in terms of 'dynamism' (e.g., lively, energetic, enthusiastic, ambitious), 'superiority or prestige' (e.g., educated, high status) and 'social attractiveness' (e.g., friendly, sincere, sense of humour) (Zahn & Hopper, 1985). A number of researchers (Dalton-Puffer et al., 1997; Garrett et al., 2003; Lindemann, 2003; McKenzie, 2006) applied PCA in their research, which can be condensed into two dimensions: further shortened into 'competence' (or social status) and 'social attractiveness' (or solidarity) (McKenzie, 2006, p. 60). However, in the field of folk-linguistics, these dimensions have been interpreted into 'correctness' and 'pleasantness' (see Niedzielski & Preston, 2000).

While there are advantages of MGT, there are also several criticisms of this technique. Some critiques are of the salience problem, the perception problem, the accent-authenticity problem, the mimicking-authenticity problem, the community-authenticity problem, the style authenticity problem, and the neutrality problem (see Garrett et al., 2003 chapter 3; McKenzie, 2006, p. 60 to 63). In this thesis, I will focus on the style authenticity problem.

The style authenticity problem in MGT, which I will apply in the main thesis, as Garrett et al. (2003) have noted, is that speakers need to read out the same prepared text in different language varieties to produce several prosodic and sequential phonological features (Garrett et al., 2003). The speakers reading a prepared text are likely to have a different style from spontaneous speech style, which places doubt upon the collected data's authenticity. Research studies have found that listeners easily identify the speaker's geographical origin in spontaneous speech, as opposed to a speaker reading out a prepared text (Van Bezooijen & Gooskens, 1999, p. 42). The read speech texts do not vary lexically, morphologically, or syntactically. Geographically related pronunciation only occurs at the segmental phonetic level along with some geographically related prosodic features. However, the role of prosodic features is limited, and the prosody of read speech is standardized, whereas spontaneous speech indeed contains more cues that identify the geographical origin of the speaker that vary lexically, syntactically and morphologically.

The amount of time a listener is given is believed (Cargile, 2002; McKenzie, 2006) to be important. Listener-judges need to have an ample time as necessary to be able to mark their judgments when listening to stimulus speech recordings, and this can be assisted by having lengthy speech recordings, allowing listeners to listen more than once, or as many times as they want if they are not confined by time.

Because the matched-guise technique has had several criticisms, as previously mentioned, a verbal-guise technique, another variant of MGT, has been developed. The VGT differs from MGT in that many different speakers that provide recordings, and this overcomes issues related to accent-authenticity and mimicking-authenticity (Garrett et al., 2003). The strategy used in the verbal-guise technique (to avoid the style authenticity in MGT) is to record speech from different speakers of different dialects and language varieties (see El-Dash & Tucker, 1975).

There have been calls to include dialect recognition in attitude studies while participants are presented with speech samples and asked to rate them. Dialect recognition is an adequate label for the sociolinguistics process, through asking, 'where is the speaker from?' which is a cognitive process (see chapter 9 Garrett et al., 2003, p. 209). Trudgill (2000) indicates that our accent and speech can indicate where we are from or where our background originates. However, listeners who cannot identify a particular speech variety may likely be unable to identify the stimulus speech of a language or language variety of speech (McKenzie, 2006). However, a range of researchers have argued that even though listeners are unable to correctly identify a speaker's language variety, this does not affect

the ratings (Lindemann, 2000; Milroy & McClenaghan, 1977). This is consistent with the findings of Zhang (2010) that whether the speaker's variety or place of origin was identified correctly or not, it does not affect the ratings. They added that listeners focus on the accent of the speaker as well as the speech style (see chapter 3 section 3.4).

2.4 Matched–guise technique

The MGT requires a single bilingual or dialectal speaker to be recorded when reading out the same text in different guises. Then the recording is played to listeners who purposely were not informed that they were listening to different speakers, who were then asked to evaluate each speaker they hear on a number of personality traits such as intelligence, kindness, friendliness and so on (Garrett et al., 2003; Zahn & Hopper, 1985). Other paralinguistic features were considered for controlling for linguistic and non-linguistic variables and ensuring that pitch, voice quality, speech, and hesitations are kept the same (Gaies & Beebe, 1991).

The first seminal study that used a new technique focused on voices to investigate attitudes towards language variety was first introduced by Lambert et al. (1960) called the MGT. This method was conducted in Canada to investigate Canadians' attitudes towards French and English using the matched guise technique and a questionnaire. The study employed a bilingual speaker reading the same passage in two languages, but listeners were told they would listen to several speakers. The introduction of MGT by Lambert and his colleagues was a landmark that presented a methodology that still plays an influential role in current research. There were two groups of listener judges, English-speaking and French-speaking, who were asked to listen to four speakers and rate each speaker on 14 personality traits across 6-point scales from 'very little' to 'very much' on intelligence, likability, laziness, religiousness, kindness, education, sociability, etc. The main findings showed that English-Canadian speakers evaluated the English voices more favorably than the French-Canadian voices on most traits, including taller, kindness, intelligence, and significantly more qualified for higher paid jobs by both the English and the French speakers. While the English participants were more favorable to the English guises. However, it was unexpected that the French Canadians rated the English voices more favorably than the French voices.

The MGT methodology proved its success by being quickly adopted to investigate attitudes towards accents and regional accents in monolingual communities (Whisker-Taylor & Clark, 2019). For example, in the UK, MGT was used to investigate regional accents (Cheyne, 1970; Giles, 1970; Whisker-Taylor & Clark, 2019) and multilingual

settings (Bayard et al., 2001). MGT was also used to investigate attitudes towards regional varieties of English (Cargile & Giles, 1998; Lindemann, 2003; McKenzie, 2008). Also, MGT was used to investigate listeners' attitudes towards regional Arabic varieties, such as Arabic varieties in Jordan towards MSA, Urban, Rural, and Bedouin varieties (Hussein & El-Ali, 1989).

During MGT, listeners do not know that they are listening to the same person twice or more frequently (Soukup, 2012). Lambert et al. (1960) applied this technique in both French and English provided contexts. They asked listener subjects to listen to speakers of English and French-speaking students and were asked to rate them on a number of semantic-differential scales. For example, pleasant, educated, intelligent, likeability and so on. They found that subjects rated lower the French speakers in regards to intelligence and likeability but rated higher the same speaker when they were reading in English. This suggested that participants had a more favorable view of English than French. This research enabled other similar studies worldwide using the same methodology to understand the attitudes of native speakers towards languages and language varieties (McKenzie, 2006).

The assessment in MGT is based on some evaluative scales and features. Lambert's features contained thirteen personality traits grouped into three categories of 'competence', 'integrity', and 'social status' (Lambert et al., 1966). These categories were renamed into the two main dimensions of status and solidarity, in which they became the basic variables in research on attitudes.

MGT has been criticized for its unreliability (Bayard et al., 2001; Garrett et al., 2003; McKenzie, 2006; Zhang, 2010). Gaies and Beebe (1991, p. 164) were concerned about the use of matched guises and questioned its credibility and reliability. Hudson (1980, as cited in Gaies & Beebe, 1991), argued that 'in some cases, the use of guises may be counterproductive', and 'a single speaker may be producing an exaggerated version of the accents or dialects he is stimulating'. Despite this MGT criticism, however, MGT is still an excellent method for measuring listeners' subjective reactions. The main success and problems of MGT are summarized in (see Garrett et al., 2003, pp. 57-61).

When the accent varieties to be studied are not spoken in the same area or region, and the aim is to evaluate and compare people's reactions in one study, then it may difficult to find a single speaker to carry out recording accurately all the accents even if they well-coached (Campbell-Kibler, 2006). Thus, and to overcome any MGT problems, the Verbal-guise technique (e.g., Giles, 1970; Ladegaard, 1998; Stewart et al., 1985) has been used. VGT differs from MGT, in that a number of different speakers provide authentic stimulus

speech recordings that overcome MGT issues such as accent authenticity and mimicking-authenticity (see Garrett et al., 2003). This approach has been employed to circumvent the issue of finding a single competent speaker who can persuasively produce the accents required for the study (McKenzie, 2006, p. 64). This technique also ensures that a native speaker produces every accent guise. The strategy of using the VGT is to overcome the style-authenticity problem in MGT and to record the spontaneous speech of different authentic speakers (El-Dash & Tucker, 1975). One issue of VGT is when using other speakers, it may cause ambiguity concerning which aspects of the speech's paralinguistic features trigger people's evaluation (Campbell-Kibler, 2006).

2.5 Semantic differential scale

Semantic-differential scales were first established by Osgood (1957). This has been prevalent in evaluation studies, such as that by Zahn and Hopper (1985), and is very common in matched and verbal techniques (Brewer, 2013; Garrett et al., 2003). In the field of language attitude studies, the semantic differential scales are paired with five-or seven-point Likert scales, which are seen as giving more reliability, indicating participants' attitudes of positiveness, neutrality, or negative responses towards language varieties and/or dialects (Brewer, 2013). Subjects are asked to listen to recordings and evaluate the speakers, most often on a semantic-differential scale with respect to several personality qualities (see Giles, 1970; Lambert et al., 1960; McKenzie, 2006). McKenzie (2008) asked his Japanese respondents in Japan to listen to native as opposed to non-native varieties of English speech and rate them on semantic differential scales employing a seven-point scale across the dimensions of competence (status) and social attractiveness (solidarity) traits. Lambert et al. (1960) asked their respondents to listen to four bilingual speakers reading a passage in English and also French to rate each voice on 14 traits using 6-point scales ranging from very little to very much. Giles (1970) investigated British respondents' attitudes towards 13 foreign and regional accents across three dimensions on 7-point scales.

Despite the pitfalls of direct approach (see Garrett et al., 2003, p. 27), many attitude studies use it. These studies focus on language preference, evaluation and why people choose to learn a particular language (Al-Haq, 1998; Al-Raba'a, 2016; Baker, 1992; Hachimi, 2015; Hussein & El-Ali, 1989). Overall, the direct approach is likely used in research to investigate participants' attitudes, beliefs or opinions about aspects of language variety, dialect and use.

A large number of attitude studies have used Likert scales, usually as 5 or 7- point scales or semantic differential scales paired with 5 or 7-points scales (Brewer, 2013; Eagly & Mladinic, 1989). The semantic differential scale directly presents the traits by asking participants to rate each attitude object on 7-point semantic differential scales. For example, these scales involve a set of adjectives and their two bipolar opposites, such as good-bad, pleasant-unpleasant, pretty-ugly, intelligent-unintelligent, which would sit on either side of 7-points on the scale, where 1 represents friendly, and 7 represents unfriendly. Informants are asked to rate the speaker by choosing or circling one of the seven points on the scale (White, 2013). Semantic differential scales also tend to provide an odd number, to provide neutral positions for informants (Whisker-Taylor & Clark, 2019).

Lindemann (2003) has investigated attitudes towards native and non-native speakers on status-related and solidarity-related traits. A text was read by seven speakers representing a North Midwestern variety of US English and ten native Korean speakers. 39 Michigan University first-year subject listeners were asked to evaluate each speaker on six-status and six solidarity-related traits on a 7-point scale, with range of 1 to 7 with a higher number which referred to positive attributes and identification of non-native speaker's ethnicity. Overall, results show that Korean native speakers were rated more negatively on status traits than their American counterparts. Conversely, Korean speakers were evaluated more positively than US speakers on solidarity-related traits. In terms of ethnicity identification, listeners misidentified Korean speakers and identified them as Asian, guessing Chinese or Japanese more often than Korean.

The next section discusses language attitude studies in the UK, the USA and in some Arab countries.

2.6 An overview of language attitude studies

This section provides a critical review of a number of seminal language attitudes in the UK, the USA, and language attitude studies on Arabic in some Arab countries. I will then discuss major findings obtained from research conducted in Arabic in some Arab countries. Most studies presented here employed MGT, which has contributed to language attitude studies (Zhang, 2010). As English has many accents and dialects, both American and British English dialects were studied broadly because they are the varieties that are being taught worldwide (Serrarens, 2017).

Attitudes towards accents and/or dialects depend, to some extent, on social hierarchies within the community or in the geographical area (Dewaele & McCloskey,

2015), e.g., the RP accent is rated higher on prestige and associated with higher status compared to other local dialects and/or varieties, such as the Birmingham variety and American Standard English (Burgess & Spencer, 2000; Dragojevic et al., 2017; Giles, 1970; Hiraga, 2005), whereas foreign-accented speech may cause stereotypical evaluations (Munro & Derwing, 2006).

Accent in the field of phonetics is defined as the study of speech sound related to the specific pronunciation of a language or a dialect, focusing upon phonetic and phonological features rather than grammar or lexis, whereas accent in the field of sociolinguistics refers to different people belong to a particular speech community and a symbol of social identity (Munro & Derwing, 1995a). The above definition of accent served to identify the speaker's regional identity or nationality, telling listeners something about the speaker's nationality as a form of social identity (Becker, 1995). Some accents are more attractive than others, and as a result, these accents affect listeners' judgements when perceiving people.

An accent is categorized as standard and non-standard. Some research studies using matched-guise techniques have shown that a standard variety is endowed with high status and power, whereas a non-standard variety is associated with low economic level and lower status (A. Cargile, 2000; Giles, 1970; Hiraga, 2005; Ladegaard, 1998), but is judged higher on solidarity (Coupland & Bishop, 2007; Hiraga, 2005; Ladegaard, 1998).

This section focuses on findings and discussions of previous attitudes studies on English, Arabic, other languages, as well as accented English varieties.

2.6.1 Previous studies on language attitudes in the UK and USA

This study looks at attitudes towards English and Arabic. In this section, I will look at attitudes towards English varieties, and in the following section, I will look at Arabic varieties. The standard/non-standard English varieties or accents are considered problematic with regards to the spoken form of a language variety. Also, it is evident that the standard variety tends to be rated most positively on status traits (Giles, 1970; McKenzie, 2006; Zhang, 2010); however, non-standard varieties are perceived more positively on solidarity traits (Giles, 1970). Thus, distinctions between evaluations of standard and non-standard English speech varieties have been shown in a number of studies (Bayard et al., 2001; Garrett et al., 2005; Giles, 1970; Hiraga, 2005).

The standard Arabic variety is the only standard written variety and is accepted as a standard variety regardless of what nationality a speaker belongs to. However, the English

variety is unlikely to be an internationally accepted standard accent, but it is accepted in writing, including minor variations in lexis (Gupta, 2001, p. 370).

Montgomery (2007) points out language attitudes are classified as two types, 'conscious' and 'unconscious'. Conscious attitudes are examined when participants know what they are directly being asked, and unconsciously respond differently when indirectly asked (Montgomery, 2007). In sociolinguistic studies, speakers of standard varieties are generally judged more positively on the status dimension than speakers of non-standard varieties (Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005; McKenzie, 2006). However, speakers of non-standard varieties are also rated positively in terms of solidarity (Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005; McKenzie, 2006). Researchers in the UK demonstrated that people rate standard varieties such as Received Pronunciation (RP), Standard English and/or the Queen's English more favorably on social status and prestige in comparison with non-standard varieties, particularly with regards to speakers of urban areas, e.g., in Liverpool, Birmingham, and Newcastle (Bishop et al., 2005; Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005; McKenzie & Carrie, 2018). On the other hand, non-standard varieties were rated more positively than standard varieties on solidarity/social attractiveness (Coupland & Bishop, 2007; McKenzie, 2006). Therefore, speakers of standard varieties seem to be perceived as more educated and prestigious than speakers of non-standard variety (Brewer, 2013).

Giles (1970), in another influential study, incorporates both the matched guise technique on vocal accents and accent labels. The study asked 177 school children to investigate their attitudes towards thirteen accents in South Wales and South-west England. The respondents were asked to rate the 13 accents across the three dimensions of 'aesthetic', 'communicative' and 'status'. The 13 accents were all done by one male speaker who read the same passage with 13 different regional and foreign accents. A questionnaire was prepared so listeners could record their evaluative reactions to the voices across the dimensions. After completing the first task, listeners heard another list of accents, similar to those in the match-guise task, and respondents had to rate these accents in the same way as before across the three dimensions using a 7-point Likert scale, e.g., 1= extremely pleasant and 7= extremely unpleasant. However, participants were not informed that there would be two tasks. The participants were between 12 to 17-year-olds from different sex, social classes, middle classes, industrial classes, and regions. Results for the first task (match guise) showed that listeners were able to identify the 13 presented accents. The majority of the accents presented were evaluated negatively, with the score of 4.0 as the mid-point. Only

RP accent French-accented English and Irish accents were perceived as pleasant-sounding. Only RP accents, North American accents, and French-accented English were judged as comfortable to interact with, and RP accents, Affected RP accents, North American accents, and French-accented English were perceived as having prestigious social status. The North American accent and the French-accented English were rated higher, relatively, than the other British regional accents. The results of both tasks correlated highly. The 17-year-old group performed better in terms of accent recognition and assigning more prestige value to RP than the younger children.

Older age participants also rated Affected RP and German-accented speech higher than the 12-year-olds. There were regional effects of regional differences in rating local accents. Own accent was judged more favorable, positive and distinctive than that of the local vernacular or accent peculiar to their regional accent. Sex showed no significant effect. Males rated French-accented speech less favorably than females because the speaker is male, and 12-year-olds rated French-accented speech less favourably than the older subjects.

Conversely, the American accent was rated less pleasant by the 17-year-old group than the 12-year-old. However, the North American accent influenced 12-year-olds more than the older participants, and females more than males. Social class is an important variable; results showed that 12-year-old males of both regions rated several accents lower than their middle-class peers in aesthetics and communicative contents. Working-class participants have more accent loyalty than middle-class peers. West Indian and Indian accents held higher ratings in prestige than the Birmingham accent, and RP was rated higher than Affected RP. All British regional accents had less prestige value than the RP variety. The standard varieties such as RP and North American English were more favoured than non-standard varieties, such as Irish or South Welsh, in regards to status traits such as education and affluence. Conversely, non-standard varieties were rated more highly on solidarity traits, such as friendliness, etc.

Another study by Cheyne (1970) investigated listeners' attitudes towards Scottish and English regional accents using MGT. The results show that Scottish and English respondents rated the English accents higher on status dimensions, in comparison to Scottish accents. However, the respondents rated the Scottish accents higher on solidarity traits, judging the accent to be more friendly than the English accents. Similarly, in Milroy and McClenaghan (1977), results showed RP, the standard variety, was rated higher on status traits than non-standard varieties by Belfast respondents, but, on the other hand, lower than Scottish and Ulster accents on solidarity traits.

Stewart et al. (1985) investigated American respondents' attitudes towards American English and RP English. Results indicated that, unsurprisingly, the RP accent was rated higher on social status than the standard American accent, but lower on solidarity dimensions. Another study was done by Watson and Clark (2015), who evaluated 19 participants. Results indicated that non-standard English varieties, from Cardiff, Dublin, Newcastle and Liverpool, were ranked positively in terms of friendliness/solidarity, but lower in terms of prestige/status (p. 48).

Another recent study conducted by Hiraga (2005) investigated thirty-two Southern English respondents' attitudes as they evaluated six varieties of English Standard and non-Standard varieties in Britain and America on status and solidarity dimensions, including the Network American English, RP, two urban varieties of English, the New York and UK Birmingham accents, and two rural accents, the Alabama and Yorkshire. Results showed that British listeners rated the RP accent the highest, followed by the Network American standard accent on status dimensions, and the Birmingham accent was rated the lowest. However, the Network American English was rated higher than the RP accent on the solidarity dimension. The Yorkshire accent was rated the highest on the solidarity dimension, whereas the New York accent was rated the lowest, and the Birmingham accent was rated the second-lowest. Hiraga's results confirm Giles' (1970) general pattern that the standard variety is rated higher on status than the non-standard varieties. The RP accent's prevailing status is evident 'throughout the Anglophone accents and even in a society (America) that possesses economic and political advantages over Britain internationally' (Stewart et al., 1985, p. 103).

A large scale study by (Bayard et al., 2001) investigated the perceptions of over 400 respondents' attitudes from the USA, New Zealand and Australia towards Standard North American, RP, Australian, and New Zealand Englishes. This verbal guise study was a text read out by female and male speakers of each of the four varieties. All the voices were played to the respondents to check if they could identify the varieties, before being asked to rate the speakers on power, competence, status, and solidarity. Contrary to findings in other studies (Giles, 1970; Hiraga, 2005; Stewart et al., 1985), the RP accent was not rated as high as expected on status traits; instead, the American male and female voices were rated higher than other voices across power, status, competence, and solidarity. The male RP voice was rated the highest on status trait by New Zealand respondents, and American respondents rated the male RP and the female USA speaker the same on status trait. The Australian respondents rated the male RP accent second on status trait after the Australian male. The

female RP voice was rated very low by all the respondents. Therefore, Bayard et al. (2001, p. 22) argue that 'the findings of the attitudes to the RP accent in these countries may be now changing, and the American accent seems well on the way to equaling or even replacing RP as the prestige – or at least preferred –variety'. A further argument that this change from RP prestige to American is the influence of media and American global hegemony's pressure in all its guises: fast foods, pop music, films, middle-class TV sitcom (Bayard et al., 2001, p. 41).

Coupland and Bishop (2007) adopted the direct method towards varieties of English accents, conducting a large online scale-survey study investigating informants' reactions to 34 different accents of English. These were presented as a form of accent labels from 5010 participants, distributed demographically across regions of the UK. All the participants were over 15 years of age, and all completed the questionnaire online. Participants were also asked various questions about their language use and general preferences about linguistic use, but the main task was to rate the 34 accents. These accents were major regional British accents, accents associated with other countries with a presence in the British social life, and some accented English varieties. Participants were asked to communicate their evaluations electronically by choosing numerical values of seven-point Likert rating scales of each dimension. Some questions were about prestige and pleasantness, for example, "how much prestige do you think is associated with this accent?" and "how pleasant do you think this accent sounds?" Participants were from different regions in the UK. There was a good gender balance but a slight imbalance in age distributions, in that the majority of participants fell into a middle-age group: a 25-64 age group, but the 15-24 and 65+ age groups were under-represented. No social class details were required and or collected. Researchers aimed to capture participants' responses to a vast number of varieties, which were presented in the form of accent labels. Researchers used a method to elicit responses referred to as 'conceptual' (p.75). They demonstrated how participants present their attitudes to accent labels. They evaluated accent labels based on prestige and social attractiveness. Findings revealed that some accent varieties are rated highly on solidarity and lower on status, e.g., Newcastle and Southern Irish were rated higher on social attractiveness but lower on prestige dimension.

Birmingham English, Black Country English and Asian-accented English were rated the lowest in both dimensions. Other varieties were rated higher on prestige but lower on social attractiveness, e.g., German-accented English, London English, Queen's English and South American English. Some other varieties were strongly favored in both prestige and

social attractiveness dimensions, e.g., Standard English, Accent identical to own, Edinburgh and Scottish. New Zealand English was more favored than its neighbouring Australian English (p.79). Sex emerged as a significant variable, with women using more standard speech than men. Age was also a significant factor; younger informants assigned less prestige to the standard accent. Region of the informants where respondents are from show that, for example, Scottish, Welsh and Northern Ireland respondents demonstrated in-group loyalties for the prestige of their English-accent varieties, more so than respondents from other UK regions.

The above studies show that the Standard English varieties such as the RP accent, were rated higher on status traits, such as prestige, education and intelligence. In contrast, the non-standard varieties, on the other hand, were rated higher on solidarity traits such as friendliness and pleasantness. In the above studies, the speakers and the listeners had the same language background but with different varieties. The next studies examine listeners' attitudes towards English varieties and non-English varieties.

Ladegaard (1998) investigated Danish listeners' attitudes to verbal guises towards varieties of English accents, including RP, American, Australian, Scottish and Cockney. The results showed that the RP accent received the most favoured evaluation on status and competence-related traits, such as 'correctness', 'intelligence', and 'communicative efficiency', but was downgraded on social attractiveness. The Scottish accent was rated highest on solidarity traits, such as 'friendliness', and 'helpfulness'. The Australian speaker was rated the highest on 'reliability', whereas the American speaker was rated the highest on the 'humour' trait. The Cockney (non-standard variety) speaker was rated the lowest on all dimensions, but higher across solidarity-related dimensions as opposed to status-related dimensions. This indicates that Danish listeners see RP English as the most prestigious accent (Ladegaard, 1998, p. 258). In terms of identifying the nationality or variety of the speaker, the American speaker was the most successfully identified, followed by the RP speaker. The American speaker was accurately identified because American movies, documentaries and soap operas dominate the Danish media, and participants are used to hearing the American accent (p. 260).

Johnson (1989) conducted a study investigating participants' attitudes towards language varieties of German, specifically towards the Berlin and standard German (High German) dialects, and male and female differences towards the Berlin dialects. 77 students from the 10th grade were recruited as listener judges. Students were asked to listen to tape-recorded audio, and then answer questionnaires. A 24-year-old female and her 29-year-old

brother were recorded reading short passages. first speaking in Standard German and then with the Berlin dialect. Listener-judges were asked to provide their attitudes on status and solidarity-related traits, such as honesty, friendliness, intelligence, etc. Results showed that there were no significant differences between sexes in attitudes towards the two varieties. There was only a significant difference between the two language varieties: high German variety was rated higher on all personality qualities.

In Western societies, women tend to use the standard prestige variety more frequently than men do (Coupland & Bishop, 2007). In the case of English and French, the terms standard and prestige can be used interchangeably. However, and paradoxically, Arab men were found to use the standard form more frequently than women (Kojak, 1983; Schmidt, 1986). However, Ibrahim (1986) felt that it is vital to discriminate between prestige and Standard speech. He reported that investigators had been misinformed into equating MSA with prestige, since evidence from many resources and Arab countries showed that spoken Arabic has its own local prestige. He furthermore stated that women, more than men, spoke prestigious varieties.

Serrarens (2017) investigated the attitudes of Dutch citizens to speakers of Standard American English and Received Pronunciation in terms of status and social attractiveness. Participants were asked to rate five statements about the status of the speaker and five statements about the social attractiveness of the speaker on a scale of 1-6 (not at all – very much), e.g., the speaker is educated (status), and the speaker is friendly (social attractiveness). The participants were asked to listen to one language variety, RP or SAE (hereafter, Standard American English), using an online survey tool and then answer the questions afterwards. Results show that participants did not attribute higher status to speakers of RP or to speakers of SAE, and no significant effect of gender of the speaker, which is not in line with Bayard et al. (2001) where significant differences in status traits existed between male and female speakers. The findings are not in line with previous research in the same field where a higher status was assigned to RP than other English varieties (Coupland & Bishop, 2007; Giles, 1970; Hiraga, 2005; Ladegaard, 1998). However, the findings show no significant social status differences between RP and SAE speakers as judged by Dutch citizens. In terms of social attractiveness, participants found the RP variety more socially attractive than the SAE variety. This finding is not in line with Ladegaard (1998), where RP was rated lower on social attractiveness than SAE, Australian, Scottish and Cockney varieties. RP male speakers were also rated higher on social attractiveness than male speakers of SAE and female speakers of RP and SAE varieties.

However, in Bayard et al. (2001), results showed that female speakers were rated higher than male speakers in RP and SAE varieties.

Dragojevic et al. (2017) investigated the effects of accent on language attitudes. They conducted two studies; in each, they recorded two Indian speakers and two Mandarin Chinese speakers. American native English speakers were then asked to listen to a mild-accented Punjabi speaker and a strong-accented Punjabi speaker, and a mild-accented Mandarin speaker along with a strong-accented Mandarin speaker and evaluate each speech sample. Results show that speech samples produced by heavy-accented speakers were evaluated more negatively than mild-accented speakers. Also, listeners were able to identify the nationality of speakers regardless of their accent strength.

Although most studies have shown that non-native speakers' accents were rated negatively in terms of accentedness, comprehensibility, intelligibility, status, and solidarity, other studies rated some English varieties negatively. For example, (Dragojevic et al., 2017) argue that the US people rated the RP accent higher on status than SAE but lower on solidarity.

To conclude, the above studies' discussion shows that the standard British and American varieties are rated higher in status-related dimensions than non-standard or local varieties by speakers of standard and non-standard varieties. On the other hand, the non-standard varieties were ranked higher on solidarity traits when the respondents are the speakers of these English varieties. In the next section, I investigate Arabic respondents' attitudes towards standard and non-standard Arabic varieties.

2.6.2 Research on language attitudes in the Arab World

In the previous section, I reviewed studies investigating attitudes towards English varieties, non-English varieties and other languages. In this section, I expand the literature review to include other areas of the Arab world. The reason for this is to connect what has been done in Jordan and in other Arab contexts on language attitudes. Most of the existing literature on language attitudes was about the long-standing positive attitudes towards Standard Arabic (hereafter, SA) and the positive and the negative attitudes towards the Colloquial Arabic (hereafter, QA) (Albirini, 2016).

Historically, SA has enjoyed higher prestige than colloquial varieties for several reasons (see Albirini, 2016, p. 36 to 39). First, SA is a written and codified language with well-defined rules, conventions, and orthography. Second, SA is the medium of Arabic literary traditions, including medieval and pre-Islamic poetry. Third, SA is associated with Islamic texts (e.g., Qur'an), and perceived as a superior and a sacred language. These factors have played an essential role in sustaining the prestige of SA and as H (high) variety in the Arab speech communities. In terms of socioeconomics, SA is the language of education, administration, government, and print media. For example, the acquisition of SA may give its speakers higher career jobs. However, Ibrahim (1986) argues for 'the need to maintain a clearer distinction between Standard and prestige language in Arabic' (p. 115). He also suggests that SA's prestige is dependent on attitudes towards 'correct' or 'good' language, and the actual use of it within a speech community (p. 118). Also, he argues that prestige language varieties are associated with social status and mobility, except the SA. He does not mark these socioeconomic indicators; likewise, he assumes that the L (low) varieties of Arabic must have their own hierarchy of prestige different from that of the H variety.

El-Dash and Tucker (1975) designed a study to investigate Egyptian attitudes of various ages and educational backgrounds towards several speech styles and languages (Classical Arabic, Cairene Egyptian Arabic, Egyptian-English, British-English and American-English), using a Verbal-Guise Technique (hereafter VGT). Two speakers representing each language variety were recruited. Two Egyptian speakers were asked to be recorded talking spontaneously in Classical Arabic, Colloquial Egyptian Arabic, and Egyptian English, and two native speakers of British and American English spoke in their mother tongue. The total number of speakers was six university-educated speakers. Each speaker was asked to describe and comment on Giza Pyramids for a short period in contrasting styles and languages. Four groups of listener students, whose ages ranged from 11 to 26 (Grade school group, High school group, National university group, and American

university group), of various educational levels, were asked to listen to the six speakers speaking in different styles and language, answering on a prepared questionnaire if they were able to correctly identify the speaker's nationality, ascribing personality characteristics to each speaker on a 6-point scale, and the suitability of each style and language use in various situations. For nationality identification, results show that correct identification of the speaker's nationality was perceived correctly more than 70%, and this accuracy increased with age and exposure to the language varieties. It was found that classical and Egyptian colloquial Arabic speakers were correctly identified. The English speakers were correctly identified as follows: American, British and the least correctly identified were the Egyptian-accented English speakers. In general, listeners identified American English speakers more accurately than British or Egyptian speakers except for the American university students who correctly recognized the Egyptian-accented English nationality more than other British speakers could. For personality characteristics (intelligence, likeability, religiousness, and leadership), speakers of Classical Arabic were significantly rated the highest of all other speakers, followed by Egyptian English speakers on religiousness, where Colloquial Arabic speakers were deemed more religious that all except classical speakers. American English speakers were rated higher than British English speakers on all personality characteristics and higher than Colloquial Arabic speakers on intelligence, likeability, and leadership. For language suitability (at home, at school, at work, on radio and television, and for formal and religious speeches), Classical Arabic was considered significantly more suitable for use at school, at work, on the radio and television, and for formal speeches, over other varieties except for home use, where colloquial Egyptian Arabic was the most suitable. American English was judged significantly more suitable than British English in all situations. This indicates that Egyptians hold classical Arabic in higher esteem than their own vernacular. Also, classical Arabic, Egyptian English, American English and British English speakers were deemed more highly educated than vernacular Arabic speakers.

Herbolich (1979) investigated Cairene Egyptians' attitudes of various age levels towards four Arabic varieties of Egyptian, Syrian, Saudi and Libyan and the speakers of those varieties using a match-guise technique of recorded speech samples in native guise and Egyptian guise. Native guise speakers were asked to describe eight pictures while Egyptian guise speakers were also given a set of pictures similar in content to the first set of pictures but different enough to avoid translation. 80 Egyptian listener judges of professionals, American university students, national university students, and high school

students were asked to listen to speakers, evaluate them on ten differential semantic features, and identify their nationality. For native guise, results show that the Egyptian subjects rated the Cairene variety more favorably than other Arabic varieties on personality characteristics, followed by Syrian, Saudi and Libyan, respectively. In terms of the 'Egyptian' guise, when speakers attempted to speak in the Egyptian variety, the Libyan 'Egyptian' guise was rated more favorably than the other Egyptian guise varieties on the respectable trait. In terms of nationality identity, the Egyptian subjects were able to correctly identify the Egyptian vernacular speakers between 80 and 100% of the time, followed by the Libyan vernacular speakers, the Syrian vernacular speakers, and the Saudi vernacular speakers; however, the Egyptian subjects were unable to identify the other Arab varieties in Egyptian guises correctly. The Saudi Egyptian guise was correctly identified as Saudi by 8.3%, followed by Syrian Egyptian guise as Syrian by 8.0%, and the least identified by 3.0% as Libyan was the Libyan English guise.

Al-Kahtany (1997) investigated the attitudes of selected Arabic speakers at one university in the USA towards Modern standard Arabic and colloquial Arabic varieties, focusing on the Damascene Arabic variety. The research idea is based on Kaye's (1970) study that one colloquial Arabic variety should be taught in schools, and Damascene Arabic being the variety that ought to be used. The study aimed to provide empirical support towards MSA, the Colloquial Arabic variety (particularly Damascene Arabic) to be universalized among Arab and non-Arab learners. To do this, the author asked 40 educated Arabic speakers to listen to different recorded speakers talking about a daily event in various Arabic varieties, such as a Damascene, Yemeni, Moroccan, Egyptian, and Saudi speakers. Listeners then were asked to fill out a questionnaire of 18 items about the Damascene dialect and participants' attitudes towards MSA and their regional varieties. There were two groups of listeners, the Arabian Peninsula (AP) and outside the Arabian Peninsula (OA). Findings show that Damascene Arabic was rated lower in status than MSA. Listener judges also stated that Damascene Arabic is inappropriate in replacing MSA as a medium of education and media. In terms of Damascene Arabic recognition, speakers were asked if they could identify the country of the Arabic variety being spoken. Participants claimed that they were able to identify the country of the variety, but not all were correct. Older participants were more accurate in identifying the correct variety than the younger respondents. The region also played a significant role as listeners from OA were more accurate in identifying the Damascene Arabic variety than the AP respondents. Also, most respondents refused the idea of using their variety as a medium of education and in media. AP respondents showed more

loyalty to MSA and showed opposition to replacing MSA with regional Arabic varieties than OP respondents.

Abu-Haidar's (1989) study is based on her research project into urban versus rural elements in Baghdadi Arabic, conducted in 1985, finding that women's speech, more than men's speech, had a higher Standard Arabic form and lower stigmatized vernacular forms. Thus, her 1989 study investigates if the prestige variety of spoken Arabic in Baghdad is in the direction of standard Arabic and if women use and favor the prestige variety more than men do. 50 educated men and women, of whom 25 men and 25 women were aged between 26 –41, were interviewed and tape-recorded. A male and a female interviewer were chosen; a female investigator to interview participants separately to investigate differences in the ways informants react to the same peer sex or the opposite sex. In their interviews the investigators focused on six linguistic variables and asked informants questions about each variable. The main findings show that the prestige variety of spoken Arabic is in the direction of standard Arabic forms and women scored higher than men in linguistic variables. Also, female informants when interviewed by female and male interviewers maintain the use of standard Arabic forms, while most men's styles shifted in the direction of standard Arabic forms when interviewed by females, but they used the vernacular dialect in the presence of the male interviewer. Abu-Haider's finding was that women use the standard Arabic forms more than men, a finding which contradicts other conclusions in the same field.

This section has focused in general on Arab participants' attitudes considering different age groups, educational backgrounds, regional and gender factors, when listeners hear different Arabic varieties, including Standard Arabic, vernacular varieties and English varieties, in terms of differentiation, nationality identification and whether listeners' perception affects the ratings of speakers in terms of status and solidarity. These studies above are relevant to my research area as I investigate participants' attitudes towards MSA, Jordanian spoken dialects' prestige, preference and the dialect heritage of the Jordanian community, as well as attitudes towards Arabic varieties in terms of status and solidarity.

2.6.3 Arabic language attitude studies in Jordan

In the sections above, I have discussed the results of a series of attitude studies of native English speakers in the UK and the USA and other non-native respondents towards English varieties and non-English varieties. In general, the standard variety was rated higher than the non-standard variety. This section focuses on studies related to varieties of Arabic, particularly Jordanian Arabic.

Other studies also compared and contrasted the standard variety with local varieties phonologically, syntactically, and semantically (see Sakarna, 2005 on Jordanian dialects' linguistic status). Jordanian spoken dialects are classified into three groupings, namely, urban, rural and Bedouin varieties. They contrast phonologically, syntactically, semantically, and lexically (Cleveland, 1963).

As noted above, Standard Arabic or MSA is thought to be invariant across regions, as it is the official Standard language in all Arab countries and being widely intelligible among Arab speakers. It is learned through formal instruction and exclusively used in education, media, political speeches, courts, and in all written purposes, but sometimes it is mixed with colloquial varieties. Moreover, it is not a mother tongue for anybody and does not belong to a social group or geographical area or country (Al-Wer, 2014; Herbolich, 1979). On the other hand, Colloquial Arabic differs widely across geographical regions, as it is acquired natively, belongs to social group, area, and/or country, is not intelligible across all Arab speakers, does not have a standard orthography, but is used in informal settings and for day-to-day conversation. In Jordan, Bedouin and rural spoken dialects are perceived as stigmatized or less prestigious than the urban dialect. The stigmatization of /g/ and /ç/ in the Jordanian Colloquial Arabic (QA) spoken in villages has led the rural and/or Bedouin people to adopt the city people's speech to be accepted as part of the urban community. Habib (2005) has claimed that using /ʔ/ instead of /q/ is considered 'civilized' and 'city-like'. It has been claimed that rural and Bedouin dialects are perceived as stigmatized by younger and older urban speakers (Abd-el-Jawad, 1986; Al-Raba'a, 2016). Younger rural and Bedouin speakers feel ashamed of their vernacular dialects and tend to use the prestige vernacular variety to avoid being stigmatized in urban centers (Abd-el-Jawad, 1986). However, Sawaie (1994) argues that men in Jordan using the glottal stop variant /ʔ/ are perceived positively among urban speakers but are perceived negatively among non-urban speakers. Abd-El-Jawad (1986) has studied some linguistic features of spoken Arabic in two main heterogeneous Jordanian cities. His study is dependent on data collected randomly from 200 families representing two major urban cities: Amman, the capital, and Irbid, in the northern region of Jordan. Each family has two or more generations representing different social and cultural patterns. The participants came from different dialectal backgrounds and settled in major Jordan cities. These two cities were chosen because they were newly emerging urban centers. In his article, Abd-El-Jawad classified the Jordanian dialects into four major groupings of spoken Arabic: urban, rural Palestinian, Bedouin, and rural Jordanian. These four linguistic groupings are distinguished by the different realization of Standard Arabic

uvular stop /q/, for example, in urban dialect, it is pronounced as a glottal stop /ʔ/, a voiced velar stop /g/ in the Jordanian rural and Bedouin dialects, and as voiceless velar stop /k/ in the Palestinian dialects. Abd-El-Jawad focused on recording the linguistic behavior of the members of the same family as well as the phonological variables spoken by each speaker. Findings revealed that /g/ speakers vary in their adoption of urban variant, e.g., older generation participants, particularly fathers, retain the /g/ variant, and few of them use the /ʔ/ or use it variably with /g/. Females of both cities use the /ʔ/ variant more often than males, for example at home the /g/ variant is used, but at work and university, the /ʔ/ urban variant is used by females. The standard variant /q/ is used among males, and the prestigious urban variant sound /ʔ/ is used noticeably among females even though they come from rural areas. A similar pattern applies to other variables, e.g., it was found that all participants, especially females tend to abandon the /ç/ variant in favor of /k/, and both males and females abandon the /ç/ more often they abandon the /g/ variant when they communicate with urban speakers. Abd-El-Jawad's findings on phonological variables is that /g/ speakers use the fronting of back vowels, e.g., 'fasul' while the front vowels correspond to urban and standard forms, e,g., 'fasil', 'season'. He continues that female speakers use the light /l/ in favor of dark /ɬ/. Also, he stated that as the community increases, the urban variants, particularly /ʔ/, increase more in Amman than in Irbid. Moreover, the urban variants used by urban speakers are associated with "modernization, prestige, and civilization where the society perceived these variants as social class, associated with high status, femininity, richness, wealth, appearance, and respect" (Abd-el-Jawad, 1986, p. 58). In his linguistic variation, he asserts that males from different dialectal backgrounds adopt the Bedouin and rural voiced velar stop /g/ as it is thought to be closest to standard Arabic and more appropriate for men. Bedouin and rural speakers value their dialects as symbols of identity, nationalism, loyalty, pride and solidarity. Finally, he concludes that the urban variety will increasingly appear in the Jordanian urban cities because stigmatized linguistic features have lower social status and will disappear and be replaced by standard or urban prestigious forms. However, he predicts that certain stigmatized local linguistic forms are retained because they represent local identity, solidarity, pride and nationalism. Urban speech sounds in rural areas are felt as deeply inappropriate for males, but acceptable for females, because these phonological urban sounds sound soft and feminine.

Sakarna (2005) has criticized Abd-el-Jawad's paper for several reasons. For example, he did not provide any social factors related to the participants that correlate strongly with linguistic variation that are considered fundamental in any sociolinguistic

study, namely, age, gender, education, origin, regional areas, dialectal background of each family, and a number of participants in the three dialectal groups. The study has also focused on one phonological variable, the standard /q/, which represents the three dialectal groups. Moreover, the author himself did not provide information on how data is collected, the research instrument used, and how data is analyzed. One problem of his findings is that some conclusions are dependent upon anecdotal 'feelings', for example, "Jordanians share the feelings that linguistic urban variants are more prestigious and modern and are endowed with superior status" (Abd-el-Jawad, 1986, pp. 45-55). Sakarna (2005) continues his criticism in asking, "What is the evidence for such a feeling, and how can we measure the feeling of a nation linguistically?

Hussein and El-Ali (1989) conducted a study aiming to investigate university students' attitudes to the social status of Modern standard Arabic and colloquial varieties spoken in Jordan, namely that of Bedouin, Fallahi (rural) and Madani (urban). The data were collected from students studying at Yarmouk University in Irbid in the north of Jordan. 303 students took part in the study; 189 were males and were 114 females. Two techniques were employed; MGT and semantic differential scale. One male speaker read a short passage using different language varieties and assumed four guises for participants to evaluate. Each recorded passage included some phonological and lexical variation inherent in each language variety. Listeners later were asked to listen to the four guises in random order and present their judgments in an evaluation questionnaire on a 7-point semantic differential scale. Results showed that MSA was rated the highest.

On the other hand, among colloquial varieties, the Bedouin dialect was rated first followed by the rural dialect, and the Madani (or urban) dialect was rated the lowest on social status. The Bedouin dialect was the most preferred, the Madani dialect was the least preferred, and the Fallahi was intermediate. Madani and Bedouin speakers were loyal to their varieties in terms of dialect loyalty, dissimilar to the Fallahi speakers. Bedouin speakers rated their variety second after the MSA, Madani respondents rated their variety second after the MSA first, while the rural respondents rated their variety third after MSA and Bedouin varieties.

Sawaie (1987) conducted a study to explore educated Jordanian speakers' attitudes towards the standard variety alongside other regional and social varieties. The study focused on the standard /q/ phonological variable and its reflexes in the Jordanian and Palestinian countries, namely /g/, /k/, and /ʔ/. 223 university students of both genders took part in the study. The study took place at Yarmouk University (again, in Irbid city in the north of

Jordan). Participants were Jordanians and Jordanian-Palestinians. One sentence containing /q/ as the standard variant was used in the study. One male student participant was asked to read four sentences, replacing the /q/ variable with all its reflexes variable sounds of different dialects such as /g/, /k/, and /ʔ/. These four sentences were recorded, and listeners were then asked to listen to their reactions towards these four different speech varieties. After that, participants were asked to complete a questionnaire comprising two sections: personal information and two test types. The first test was an Indirect Test, including four judgment statements about Arabic, applying a five-point Likert scale ranging from strongly agree to strongly disagree. The second test is a Direct Test that asks participants to name the dialect or the language variety they hear. Findings suggest that the /q/ standard variant is correlated with educated people and associated with the teaching profession, and it was favored over other regional dialects. The /ʔ/ sound is revealed to be used by secretaries. This can be explained by the fact that women, especially city inhabitants, use the/ʔ/ variant, and it holds negative connotations if used by men. Other variants like /g/ and /k/ are revealed to be stigmatized in the city, perceived to be used by village dwellers and used by low social class people such as taxi drivers, farmers and construction laborers.

To sum up, the /q/ variant is associated with education but not marked for high social class. The glottal stop /ʔ/ variant is associated with urban city residents and viewed as culturally superior to the /g/ and the /k/ variants. Therefore, the /ʔ/ variant is concurrent with the high social class maker. Results in the Direct test contradict results in the Indirect test concerning the high social class. In the Indirect test, the /ʔ/ variant was associated with high social class, while in the Direct test, the /g/ variant was associated with high social class and judged higher than the /ʔ/ variant. This study's findings cannot be applied to the Jordanian and Palestinian general populations because it was limited to university students.

Sakarna (2005) criticized two contrasting hypotheses in the literature relative to Jordanian dialects' linguistic status to determine their validity. The first hypothesis is that one dialect in Jordan has prestige (urban) (Abd-el-Jawad, 1986), while rural and Bedouin dialects are stigmatized; the second hypothesis is that the rural dialect is associated with clarity of articulation, prestigious and close to Standard Arabic (Al-Sughayer, 1990). Al-Sughayer built upon Ferguson's (1968) work, suggesting that each speech community has attitudes and beliefs about the language of the community as well as other languages. He labelled these attitudes and beliefs as "myths". In relation to this, Sakarna has shed light on dialect ratings in terms of the linguistic status of what a member of a speech community thinks of his dialect, alongside other dialects within the same community. He argues against

Abd-el-Jawad (1986), who claims that urban dialect (UD) is endowed with high status, and also with (Al-Sughayer, 1990), who states that the rural dialect (RD) is endowed with clarity and eloquence. Sakarna states that these two claims are incorrect. He also argued with Abd-el-Jawad (1986), that the rural dialect and the Bedouin dialect are insufficient to be classified under one grouping. Sakarna's (2005) study has also shed light on lexical and phonological variations between RD and the Bedouin dialects. He compared the RD to two Bedouin varieties. Bani Saxar (BS) was compared to RD on lexical variation, and Bani Hasan (BH) was compared with RD on phonological variation. Results show that there is a difference between RD and BS at the lexical level. Also, there are differences between RD and BS at the phonological level with respect to epenthesis, trisyllabic elision and raising.

In his study, Sakarna (2005) refuted two major hypotheses in Jordanian sociolinguistics. The first was that the RD is associated with clarity and eloquence; he suggests that this is implausible because there is no conclusive evidence or recording to show that RD was spoken outside the Arabian Peninsula, which makes Al-Sughayer's (1990) claims questionable. Sakarna (2005) thought Al-Sughayer might have relied heavily on Ferguson's (1959b) work that a speaker 'regards his dialect as the nearest to Fusha'. Studies have shown that the urban dialect is associated with high status and prestige; others associated RD with 'clarity and eloquence' (P. 524). However, other studies proved the opposite, such as Hussein and El-Ali (1989, p. 39), who stated that the "Bedouin Arabic dialect historically enjoyed a high status in the early time of Islam; they were also called upon to arbitrate linguistic disputes amongst philologists and caliphs". In fact, Rabin (1951, p. 8) asserts that, "nomad Arabic was the final arbiter of correct Arabic".

Al-Raba'a (2016) investigated attitudes towards urban and rural varieties in the north-western part of Jordan, as spoken in the city of Irbid and the Al-Mazar district, respectively. The purpose of this kind of study is to evaluate participants' attitudes towards each colloquial variety on several differential semantic traits of a 5-point Likert scale of elements of correctness, pleasantness and social status. 200 participants of both genders, divided equally according to the same age group, of Irbid city and Al-Mazar district from the lower middle class took part in this study. Two different generations and age groups were recruited; half of the males and females were between 20 to 25-years-old, and the other half were 45 to 50-years old. The instrument used to obtain data was an online survey questionnaire. The only personal information participants were asked to provide was age group, region or area, gender, and own dialect. These attributes were investigated for

significant variables. Results showed that there were no significant differences between genders within age groups.

Findings revealed that older rural subjects perceived their rural variety (RV) as better Arabic, considering it more masculine, down-to-earth, polite, and friendlier than that of their urban counterparts. Older urban subjects, in terms of dialect, perceived themselves as better Arabic, more polite, somewhat friendlier, but more prestigious than the RV. Older rural subjects rated their variety and the UV as non-standard variety. In terms of in-group/not in-group, older rural subjects consider both varieties to have loyalty and be spoken by only their groups. However, for in-group/not in-group, urban subjects viewed UV as spoken by its group and others, unlike the RV, which only its group speaks. Older rural subjects perceived their RV as being spoken by uneducated people.

In contrast, urban subjects are somewhat neutral in that educated people speak the UV, and they rated RV to be spoken by uneducated people. Older rural subjects rated the UV as being less non-fluent, less unsuccessful, and more prestigious than their rural variety, while older urban subjects rated RV negatively on the same features. To sum up, the older rural subjects generally hold positive attitudes towards the UV except the UV is perceived as a feminine variety. The assumption is that the UV is seen as a variety not appropriately spoken by men. However, urban subjects argued that men using the glottal stop variant /ʔ/ (this variant is associated with an urban variety and considered more feminine) is perceived positively. Older urban subjects generally hold negative attitudes towards RV except that they rated RV as being more masculine than their own dialect.

Younger rural subjects, generally, hold more positive attitudes towards UV than their own. The rural subjects have considered the UV as a better form of Arabic, seeming somewhat more polite and more prestigious than their own variety. They also perceived their variety as being non-fluent and less standard, but rated UV neutrally in terms of fluency and standard. This rating is matched with older urban subjects. Younger rural subjects rated the UV as friendly and RV relatively unfriendly. In terms of in-group/not in-group, they perceived the UV to be spoken more by members outside its group than the RV. It is also perceived as an educated variety and considerably associated with success.

In contrast, RV is rated as being less educated and somewhat less successful. This rating is matched with older rural subjects who rated their RV as less standard, spoken by uneducated people, less fluent and successful. The only features older and younger rural subjects were optimistic about in their variety is that the RV is a masculine variety and more

down-to-earth than the urban counterpart. To sum up, the younger rural subjects generally hold more positive attitudes towards the UV, more than their own variety in most features.

On the other hand, young urban subjects assigned more positive values to the UV and more negative values to the RV counterpart. Younger urban subjects rated their UV as a good Arabic dialect, somewhat Standard, down-to-earth, friendly, polite, successful and more prestigious than the RV. In contrast, they evaluated the RV as being less down-to-earth, less polite, less unfriendly, unsuccessful, and non-prestigious. In terms of in-group/non-in-group, all agree that the UV is spoken by other groups, unlike the RV, which its people speak. UV has been perceived as a variety of educated people. The urban subjects perceived their variety is somewhat fluent and strongly agree the RV is non-fluent. They also agree with previous ratings that the RV is more masculine and harsh-sounding than the UV.

There is a contradiction in how the RV is perceived by older rural subjects versus the younger rural subjects. Older rural subjects seem to have more positive attitudes towards their variety than the younger rural subjects who favoured the UV at the expense of their variety. According to the author, the rural subjects seem to positively evaluate the RV of some elements in terms of correctness and pleasantness, but evaluate it has lower social status elements. The reason why the rural subjects devalue their variety is because of some stigmatized variants the RV has. Other reasons are socioeconomic; for example, universities are located in major cities, so this stimulates university students who come from the countryside or villages to adopt some prestige urban features because of the high social status the UV enjoys, and to avoid being seen as village dwellers (particularly adopted by younger rural subjects and specifically women). Also, urban subjects belong to a better socioeconomic class; experiencing economic advancement, a better education, easy access and more access to cultural and sports centers, commerce, medical services and other services. Older and younger urban subjects hold a varying degree of positive attitudes towards their variety, with older urban subjects have less prejudice against the UV, but in general, both hold a negative attitude against the RV.

The only feature all subjects of various ages and variety agreed upon is that neither the UV nor the RV are considered standard. Moreover, both subjects of different age groups and varieties agree that the RV is perceived as more masculine than the UV. Older rural subjects and older urban subjects doubt the prestige of the UV, particularly the former group, but both younger subjects agree that the UV is prestigious.

To conclude, most of the research studies in Jordan and the Arab world show that Arab participants have positive attitudes towards the SA even though they might have limited fluency in SA, but nonetheless they rate it higher and/or appreciate it over the QA. A number of research studies conducted on Arabic sociolinguistics disagreed with replacing the SA with the QA (Al-Haq, 1998; Al-Kahtany, 1997; Albirini, 2016; Chakrani, 2010; Murad, 2007), because they agree that the SA is attributed to prestige and knowledge (Al-Haq (1998), easy to use (Saidat (2010) and is the language of intellectuals, educational activities, political discourse, religion and science (Albirini, 2016; El-Dash & Tucker, 1975; Shaaban & Ghaith, 2002). Apart from the SA, it was reported that the urban variety received higher or more positive evaluations than that of other local varieties (Abd-el-Jawad, 1986; Al-Raba'a, 2016; Al-Wer, 2007b; Sawaie, 1987) when considering social status, but it was perceived as being less suitable for men because of the /ʔ/ sound which is perceived as feminine. In an interview Albirini (2016, p. 96 and 97) conducted, he asked his Egyptian, Jordanian, Moroccan, and Saudi participants, "which do you like or prefer more: Al-Fusah or Al-ʕaamiyyaʔ". The majority of respondents preferred the SA over the QA because it is seen as being a rich and beautiful language, the language of the Qu'ran, literature and poetry, the language of heritage, news, and it possesses an official status. Though the positive attitudes towards the SA are associated with historical, linguistic cultural and religious reasons (Albirini (2016), a positive attitude was influential towards the role of QA in daily communication (Chakrani, 2010; Saidat, 2010).

2.7 Standard and prestige varieties

Research studies on language attitudes have mainly focused on the explanation of the different social evaluations of so-called "standard" and "non-standard" language varieties (Dragojevic & Giles, 2016; Ibrahim, 1986). Dialects, in general, are ranked differently within a society (Brewer, 2013). Most research studies on language attitudes compare standard varieties to non-standard varieties. Standard is defined as 'the variety of a language based on the speech and writing of educated speakers and which has the highest degree of respect in a particular speech community', while 'non-standard' is defined as 'a spoken or written variety which is not accorded the highest prestige and differs in terms of pronunciation, grammar or vocabulary from the standard' (McKenzie, 2008, p. 71).

For example, as noted above, in the English context, most varieties are compared to RP (Received Pronunciation) or Standard American English (Coupland & Bishop, 2007; Dragojevic, Giles, Beck, & Tatum, 2017; Giles, 1970; Hiraga, 2005). Standard varieties like

RP English, Standard American English, Glasgow Standard English, and Standard French are likely to be seen as prestigious forms and are mostly associated with the upper and dominant social groups. On the other hand, non-standard varieties such as working-class UK accents (as found in industrial centers such as Birmingham and Liverpool), Glasgow vernacular, Southern US English, and Rural Northern French are associated with lower socioeconomic status groups (Dragojevic & Giles, 2014; McKenzie, 2004, 2008).

It is worth mentioning that the English language has several Standard English varieties and vary from one country to another. Ahmed et al. (2014) have pointed out that "a standard variety is connected with high status, power, and media, while a non-standard variety is often associated with a lower level of socioeconomic success" (182). Also, the level of prestige varies from one country to another and from one area to another. Though standard and non-standard varieties cannot be compared, they can be rated differently on different traits in terms of status and solidarity.

Standard and non-standard speakers are likely to be evaluated differently on different social status groups and semantic features. For example, the RP speakers were evaluated as more favorable in regards to the status dimension but they were downgraded on the solidarity dimension (Garrett, 2010). In contrast, non-standard speakers tend to be elevated on social attractiveness, and solidarity conversely lowered on status features. The reason why standard variety was rated high on status may reflect the real socioeconomic status and power within a society. Accordingly, non-standard varieties tend to be stereotypically associated with lower economic, social and power classes (Dragojevic & Giles, 2014). Likewise, non-standard speakers tend to be disfavoured and experience significant consequences and discrimination in the workplace, and barriers to access high opportunities in various social and professional settings vis-a-vis standard speakers suitable for high-status jobs.

Arab sociolinguists generally are heavily influenced by the western context, specifically that of the English language, in which the standard variety and the prestige variety are to a certain degree equated. However, in the Arabic context, the terms 'Standard' and 'prestige' cannot be used interchangeably and cannot be equated (Abd-El-Jawad, 1987; Ibrahim, 1986). For example, MSA is always compared to local spoken dialects in terms of which variety is standard and which is prestigious (Abd-el-Jawad, 1986, 1987; Eltouhamy, 2016; Hussein & El-Ali, 1989; Ibrahim, 1986; Kojak, 1983). Brewer (2013, p. 3) has pointed out that each speaker within a speech community determines that his own dialect is the prestige variety or the "correct way" of speaking. He also states that the "the standard

varieties are considered more prestigious than non-standard varieties and generally thought if as ‘correct’ in education, the workplace, and the government” (p. 3). Ferguson (1959a) argues in his article ‘Diglossia’, that the high (H) and low (L) style in a language, e.g., standard Arabic, is a standard variety that is used in a formal situation and has prestige, while colloquial Arabic that used in informal situations lacks prestige.

Each country has a variety of language that is considered more prestigious than others (Abd-El-Jawad, 1987). For example, in Egypt, Cairene Arabic, a spoken variety, is the prestigious variety for “non-Cairenes” (Bassiouney, 2009, p. 18; Schmidt, 1986), whereas, in Jordan, the urban dialect is a prestigious variety for non-urban speakers, specifically females (Abd-el-Jawad, 1986). However, Hussein and El-Ali (1989) have argued that the Bedouin spoken dialect from the historical perspective enjoyed high status in the early days of Islam and Bedouins were called upon for judgments amongst philologists. The standard and the prestige variety in the Arab world differ from one another in terms of phonology, morphology, and lexicon.

A large number of studies conducted in the Arab world have confirmed that the urban colloquial spoken dialects have more prestigious status than some other varieties (Abd-el-Jawad, 1986; Al-Raba'a, 2016; Al-Wer, 2007; El-Dash & Tucker, 1975; Eltouhamy, 2016; Herbolich, 1979; Hussein, 1980; Sawaie, 1987). The urban dialect gains its prestige from socioeconomic status, and the power of the city where educational institutions, business, and services are located (Albirini, 2016). Moreover, it is believed that the capital city dialect is more prestigious than other urban dialects in other cities. For example, the Cairene and the Damascene dialects are regarded as prestigious varieties in Egypt and Syria (Kojak, 1983; Schmidt, 1986).

The Bedouin colloquial variety, while it enjoyed a high prestige (Ferguson, 1959b; Hussein & El-Ali, 1989; Nader, 1962), is not considered a prestige variety because of socioeconomic status and lack of education amongst its speakers in most Arab countries (Albirini, 2016). It was considered a prestige variety based on the presumed historical relationship between SA and Bedouin dialects, rather than socioeconomically (as is the case with the urban variety), and was recognized as the purest of Arabic (Ferguson, 1959b).

To summarize, research into language attitudes in Jordan and the Arab world have had gone through a controversial debate on whether a standard variety is or not is in the direction of the prestige variety. English varieties are split into standard and non-standard, e.g., the RP variety in the UK English is standard and prestigious, but in Arabic sociolinguistics, it is confirmed that the Standard Arabic variety is a standard. However, the

debate continues as to whether the Standard Arabic variety is prestige variety or the prestige variety is associated with local Arabic varieties. Each speech community thinks of its own dialect as a prestige variety.

2.8 Chapter Summary

Chapter 2 provided a historical and comprehensive review of research studies regarding language attitudes. It started with the definition of language attitudes and the purpose of the study of language attitudes. Next, I elaborate on the different approaches concerning language attitude in the mentalist and behaviorist perspectives, and the components of attitudes and the measurements of attitudes (Baker, 1992; Garrett et al., 2003; McKenzie, 2006). I looked also at language attitudes studies in the UK, USA and the Arab World. I also looked at the differences between Standard and prestige in the western sociolinguistics and Arabic sociolinguistics.

Chapter 3: Arabic varieties, Accentedness and Perception

This chapter is in two sections. It first reviews Arab varieties' phonological and lexical features, and secondly reviews listeners' perceptions concerning accentedness and comprehensibility in speech acts. First, I begin with a standard and non-standard Arabic variety and provide an overview of important phonological and lexical features about the selected varieties, and what features affect listeners' perceptions. This chapter also examines attitude studies towards native and non-native accents in terms of accentedness, comprehensibility, and accents associated with status and solidarity. Finally, it examines the crucial aspects of language employability and identification in English and other languages, such as Arabic. Overall, listeners' perceptions towards accented or non-accented speech can be influenced by speakers' properties or some listeners' factors such as familiarity with a particular language (Kang et al., 2016). Non-native speakers are believed to have a foreign accent since they do not produce the speech sounds like native speakers (Porretta, 2015). Despite the non-native speakers' accented accent, native listeners find them more intelligible, creating successful communication and increased exposure (Gass & Varonis, 1984; Porretta, 2015). Two studies in Arabic showed this finding, when they judged the attitudes of listeners hearing recorded speakers talking in English (El-Dash & Tucker, 1975; Jaber & Hussein, 2011). The first study investigated Egyptian people's attitudes towards several speech varieties, including Classical Arabic, Colloquial Egyptian Arabic, Egyptian English, American English and British English. The study asked the Egyptian listeners to identify the speakers' nationalities, rate them on personality characteristics and perceived suitability. The second study investigated native-English listeners, asking them to rate the intelligibility of three non-native speakers of English, namely French English, Japanese English and Jordanian English, and indicating their attitudes towards these foreign accents (see section 3.2.1 below). These the only two studies as far as I know asked speakers to be recorded in English.

Research shows that listeners require a longer time to understand a foreign accent, in contrast to listening to native speakers (Munro & Derwing, 1995b). However, in this study, the speakers and the listeners are of the same native language background, Arabic, which makes it easier for listeners to understand Arab speakers, regardless of what Arabic variety they speak, when reading and retelling short texts in English.

3.1 Arabic varieties

As noted above, Arabic, sociologically, is classified into sedentary (hadari) and Bedouin (badawi) dialects. The sedentary dialects are further classified into urban (madani) and rural (qarawi 'village', or fallahi 'peasant') dialects (Palva, 2006). Bedouin dialects are classified into nomadic and semi-nomadic groups (Al Huneety, 2015). The Bedouin dialects have retained more morpho-phonemic categories from CA than the sedentary dialects (Palva, 2006, p. 606). The sedentary dialects are likely to have changed because of contact with local non-Arab speakers and are considered more 'corrupt' than the Bedouin dialects of the Arabic Peninsula; the Bedouin dialect is considered more conservative. When Arab grammarians were called upon by Arab rulers to protect and save the pure Arabic language from exterior impact (Miller, 2007, p. 7), they relied on the speech of the Bedouin who thought spoke the purest Arabic, because they were isolated from contact with non-Arab speakers (Kherbache, 2017, p. 39; Miller, 2007).

The presentation of Arabic varieties, according to Versteegh (2014, p. 189) are classified into five groups:

1. Dialects of the Arabic peninsula;
2. Mesopotamian dialects;
3. Syro-Lebanese dialects;
4. Egyptian dialects;
5. Maghreb dialects.

Arabic dialects are classified into Eastern and Western dialect groups.[2] The Eastern group Arabic is spoken in the Middle Eastern countries, and the Western group Arabic is spoken in North African Arabic countries (Palva, 2006). The Eastern groups are characterised by the retention of the first and the plural inflection of the imperfect, as in aktib 'I write', and niktib 'we write', and they maintain the distinction of the three short vowels. The Western groups are characterised by the paradigmatically levelled imperfect inflection, e.g., niktib 'we write' and niktibu 'we write it', and include the loss of inherited short vowels in medial position and non-phonemic vowels quantity (Palva, 2006, p. 605).

[2] Eastern includes Jordan, Palestine, Syria, Lebanon, Iraq, Egypt, Sudan, Yemen, Oman, Saudi Arabia, United Arab Emirates, Kuwait, Qatar and Bahrain. Western encompasses Morocco, Tunis, Algeria, Libya, and Mauritania.

3.1.1 Standard Arabic

As explained previously, Standard Arabic or Modern Standard Arabic in this study refers to the Arabic variety that is taught, learnt and spoken at schools, used in political speeches and in formal settings, and has an official status in the Arab world. Previous research has shown that Arabic speakers hold mostly positive attitudes towards standard Arabic, specifically related to its high status and prestige. These positive attitudes towards SA are confined to educated speakers and are extended to lay speakers who admire its beauty, complexity, and lexical richness (Albirini, 2016; Ferguson, 1959a). To a certain degree, SA is the most mutually intelligible and comprehensible variety throughout the Arab world, meaning it is, for Arab speakers, an integral part of their culture, identity, history and religion (Albirini, 2016).

3.1.2 Arabic Colloquial Varieties

Arabic colloquial varieties or dialects vary phonologically and lexically based on geographical areas. Some dialects overlap because of mobility and migration, either from within a country or from one country to another (Albirini, 2016).

Distant regional Arabic varieties, such as Morocco and Algeria, are intelligible and comprehensible to Maghrebi people but unintelligible to Middle Eastern Arab speakers, because they have linguistic differences. For example, in order for the Maghrebi people to be comprehensible to Middle Eastern Arab people, they need to switch into the MSA variety. Both SA and Arab dialects (ADs) are perceived as different varieties of the same language, but ADs are phonologically, lexically, morphologically and phonetically different from each other, and differ significantly from SA (Albirini, 2016, p. 26). The negative attitudes to ADs are deeply-rooted in Arab minds and history. These negative attitudes towards ADs (though they be a mother tongue of Arabs and used in everyday communications), perceived them as simplified versions of SA. Moreover, they cannot stand alone as they are incomplete varieties and have a lower status compared to SA (Albirini, 2016, p. 29). As mentioned earlier, I argue with Albirini (2016) that each language variety has its function and does not compete with each other (Ibrahim, 1986). Also, as MSA has high status, Arabic dialects are prestigious and preferred over Standard Arabic in daily communication (Abd-el-Jawad, 1986; Abu-Haidar, 1987; Eltouhamy, 2016; Herbolich, 1979; Hussein & El-Ali, 1989; Sawaie, 1987). See sections 5.1.1 and 5.1.3 in chapter five.

Although standard Arabic and Arab dialects share some lexical, syntactic, and morphological features, they diverge phonologically and in how to pronounce lexical items (Albirini, 2016). Standard Arabic has 28 consonant phonemes. There are three short vowel phonemes called diacritics (harakaat in Arabic), e.g., /i/, /u/, and /a/. These three short vowels are placed on or under the letter. Also, there are three long vowel phonemes (huruuf in Arabic), /ii/,/uu/, and /aa/, and two diphthongs, /ay/ such as [baytun] a 'house' and /aw/ as in [khawfun] which means 'fear' (see Khatib, 1988, p. 27). [3]

The next section provides some study samples, including phonological and lexical variations, which may have helped listeners identify the speaker's nationality or dialect.

3.1.2.1 Jordanian Arabic variety

This section intends to give an overview of the main Jordanian dialects. Jordan is located in the southernmost Levantine (so-called Bilad Asham) (Al-Wer, 2007b). Jordan Arabic dialects have been studied widely, and among the valuable resources are many articles (Palva, 2006, 2008) on certain tribes and dialects in Jordan (Abd-el-Jawad, 1981, 1986; Al-Wer, 1999, 2007b), related to lexical and phonological variations, studies on triglossia on Jordan Arabic (and morphological variation in the Ammani dialect, and research into Irbid dialects, particularly the urban dialect (Khatib (1988). Other phonological features show differences between dialects (Sakarna, 1999, p. 6). For example, the Ammani dialect, until 1950, had less than 10,000 inhabitants. Still, in almost forty years, it went through huge growth, reaching more than 1.5 million inhabitants in the 1990s because of the massive influx of Palestinian migrants. As a result, they brought their dialects into Amman. Before the Palestinians, the dialect of Amman did not enjoy prestige or have the type of prestige that other capital dialects had. The newcomers formed a new Ammani dialect that later became prestigious, and new generations have considered themselves speakers of the new Ammani dialect (Al-Wer, 2007a, 2007b). The fabric of the Jordanian society is dependent not on religious affiliation, but it mainly follows the tribal structure. Dialects within a country are classified or distinguished, e.g., Bedouin dialects are more conservative, homogenous, and retain ancient features, while urban dialects are changeable and heterogeneous, based on social variables such as age, gender, social class, and religion (Abd-el-Jawad, 1986; Watson, 2002).

[3] The transcriptions in this thesis are not completely accurate as the purpose is to show the differences between read Arabic and spoken Arabic, and how readers can identify the differences.

The Jordanian Arabic variety is classified into three main spoken dialects: sedentary dialects including Urban (madani) spoken in major cities and towns, Rural (fallahi/qarawi) spoken in villages, and nomadic and semi-nomadic Bedouin (Badawi) spoken in Bedouin areas (Abd-el-Jawad, 1986; Al-Sughayer, 1990; Hussein & El-Ali, 1989; Mashaqba, 2015; Sakarna, 2005). These three spoken dialects form their social dialects and linguistic diversity. Of these, linguistic diversity is due in part to the migration of Palestinian Lebanese and Syrians refugees to Jordan (Abd-el-Jawad, 1986; Hussein & El-Ali, 1989). Moreover, linguistic diversity occurred through the migration of Jordanians from the countryside into main cities and towns for the sake of a prosperous life of the city, with access to employment opportunities and educational facilities (Al Huneety, 2015; Khatib, 1988). These dialects are mutually comprehensible to speakers of Jordan, although each dialect has its distinguishing features.

Rural and Bedouin dialects are known as [g] speakers (Sakarna, 2005). However, Abd-el-Jawad (1986) classified the Bedouin and rural dialects under one grouping where he uses the phone [g] to support his argument, whereas Sakarna argues that Abd-el-Jawad's claims that the [g] variant is insufficient support for his classification to group both dialects under one grouping as each variety has other unsimilar features. Sakarna (2005) has supported his argument that rural dialect speakers phonologically use fronting epenthetic /u/ such as *fasul* and *ratul*, whereas urban dialect speakers use the epenthetic /i/ as an alternative to /*u*/ in their speech. Sakarna found that rural and Bedouin speakers talk and behave differently with respect to the phonological process, and the front vowels in *fasil* and *ratil* do not correspond only to the urban dialect and the Standard Arabic form, but to Bani Hasan (BH) forms (Sakarna, 2005, p. 535).

Cleveland (1963) divides Jordanian dialects into four groups: *yigul, bəgʉl, bəkʉl,* and *bəʔʉl*, representing the third personal singular of the verb *gal* 'say' in different Jordanian dialects (Herin & Al-Wer, 2013). Group I *yigʉl refers to* Bedouin people who speak their dialects in the south and east of Jordan. The most prominent features of the Bedouin dialects are the realisation of /q/ as /g/ and k as /k/ or /ç/. Sedentary rural people speak group II *bəgʉl* dialects in southern Palestine and Jordan. Another salient characteristic of the *bəgʉl* group is that [č] is an allophone of /k/. Group III *bəkʉl* dialects represent the rural village people around Jerusalem and the northern part of central Palestine, in which the reflex of /q/ is /k/. Group IV *bəʔʉl* dialects are spoken in major urban cities and differ from the other groups in pronunciation. The most prominent features of this group are that the /q/ is realised as /ʔ/, the voiceless interdental fricative /θ/ and the voiced interdental fricative /ð/ are realised as

/t/ and /d/ respectively. The voiced velarized interdental fricative /ðˤ/ is realised as velarized dento-alveolar stop /dˤ/ (Cleveland, 1963). Al-Wer (2007b) argues that in regard to the plain interdentals /θ/ and /ð/, many male speakers use them variably with /t/ and /d/. It is also argued that the *bəʔʉl* group dialects are typically spoken by educated, or superior social classes. It is also argued that the urban dialect is more elevated than the Bedouin and rural varieties, since the rate of education and the upper social classes amongst urban speakers are high (Al Huneety, 2015, p. 23). The *bəgʉl* and *yigul* dialects are only native to Jordan, as the *bəkʉl* and *bəʔʉl* dialects were introduced in Jordan by Palestinians after they were forcefully expelled from their homeland, Palestine (Herin & Al-Wer, 2013, p. 56). Al-Sughayer (1990) argued with Cleveland (1963) that there are three main dialects in Jordan: the Bedouin, the rural and the urban. Nomadic and semi-nomadic speakers speak the Bedouin dialect. The city inhabitants speak the Jordanian urban dialect, and it is believed it shares similarities with the urban dialects in Syria and Lebanon. It is also thought it is socially the most prestigious dialect, as speakers of other dialects adjust their speech or drop their stigmatised features to fit the prestigious urban features (Abd-el-Jawad, 1986; Al-Sughayer, 1990; Ibrahim, 1986). The rural dialect is believed to be spoken by village and countryside speakers who live in the north of Jordan. This dialect is thought to share similarities with the Hawran dialect spoken in the southern part of Syria (Al-Sughayer, 1990). Sakarna (2005) has classified the Jordanian dialects into urban, rural, and Bedouin. He asserts that the rural and the Bedouin dialects are not classified under one grouping, supporting his argument with the evidence that there are differences in the lexical, phonological, and morphological variations. Also, there are differences at the acoustic level between males and females in Jordan Arabic, for example, the plain voiceless dental stop sound /t/ in contrast to the voiceless dental emphatic stop sound /tˤ/. It was found that the emphatic stop sound /tˤ/ is realised by male speakers more than by females speakers (Al-Wer, 2007b; Mashaqba, 2015).

In this thesis, I will specify phonological features and lexical items of Egyptian, Jordanian, Lebanese, Iraqi and Moroccan Arabic varieties to investigate the aspects listeners focused on when rated speakers in terms of variety recognition, comprehensibility and accentedness. I will start with Jordanian Arabic varieties, including, urban, rural and Bedouin dialects in terms of lexical, phonological, and morphological features.

The consonant phoneme system across Jordanian dialects differs in the realisation of the uvular stop /q/ and the velar stop /k/, the plain interdentals /θ/ and /ð/ and the emphatics /dˤ/ and /ðˤ/. In the sedentary dialects of urban and rural, /q/ is realised as /q/, /k/, and /ʔ/.

The realisation of /q/ as /ʔ/ is found in the Levant's major cities, e.g Damascus, Amman, Jerusalem, and Beirut. The realisation of /q/ as /g/ is found in Jordan rural and Bedouin dialects. The realisation of /k/ as /k/ is found in the Jordan urban dialect, and the affrication of /ç/ is found in Jordan rural and Bedouin dialects (Al Huneety, 2015).

The vowels system in Jordan comprises of the three short vowels /i/, /a/ and /u/, their long counterparts /i:/, /u:/, and /a:/, as well as the two mid vowels /e:/ and /o:/, which come from CA diphthongs /ay/ and /aw/ (Al Huneety, 2015, p. 25).

3.1.2.1.1 General aspects of Jordan Bedouin Arabic dialect

Bedouin dialects are concurrent with people who have nomadic or semi-nomadic lives. Bedouin dialects in the Arab world in general and in Jordan share many features under one heading because they retain many classical Arabic features. However, there are differences between the Bedouin sub-groups. It is believed that the Bedouin dialects were deemed as the only true representative of classical Arabic and that its speakers speak pure Arabic (Versteegh, 2014).

Jordanian Bedouin dialects are part of the North Arabian dialects that belong to the Arabian Peninsula (Mashaqba, 2015). In Jordan, the Bedouin dialect is spoken by Bedouin speakers who live in the eastern and southern parts of Jordan. It is believed that the Bedouin dialect in Jordan developed from their immigration from Arabia into the Syrian desert (Al-Sughayer, 1990, p. 11). Recent research has shown that each Jordanian Bedouin tribe has its own dialectal features that may share similarities or differences with other Bedouin tribes or dialects in Jordan or neighbouring countries (see Sakarna, 1999, p. 3 to 6 for differences among Jordanian dialects). Bedouin dialects share certain features with Classical Arabic; for example, the uvular voiceless stop /q/ is realised as the voiced velar stop /g/ or the voiced palato-alveolar affricate /j/. The voiceless velar stop [k] may be produced in some Bedouin dialects as a reflex of the voiceless affricate /ç/. The preservation of the interdentals is common in Bedouin dialects such as /θ/ and /ð/, and /ðˤ/. Bedouin dialects preserve the gender distinction in the second and third plural of pronouns and verbs, for instance *ktibaw* 'they wrote' [masculine] and *ktiban* 'they wrote' [feminine], but sedentary dialects have *ktibaw* with no gender distinction (Versteegh, 2014, p. 187).

Bedouin dialects have retained the same set of classical Arabic vowels. Classical Arabic has three short vowel phonemes and three long vowels. The short vowels include two close vowels /i/ and /u/, and one open vowel /a/. In contrast to long vowels are /i:/,

/u:/, and /a:/ (Sakarna, 1999; Watson, 2002). Classical Arabic has two diphthongs, including /ay/ and /aw/ (Watson, 2002). Bedouin dialects have two new short vowels /e/, and /o/ and two long vowels /e:/ and /o:/ (Mashaqba, 2015).

There are also a number of lexemes shared among Bedouin dialects, including *xašm* 'nose', *barat^{ς}im* 'lips', and *bil* 'camels' (see Mashaqba, 2015, p. 29).

3.1.2.1.2 Characteristics of Jordan Rural dialect

Jordanian people who speak rural dialects live in the villages and countryside in Jordan. All indigenous Jordan rural speakers use the /g/ variant as a variant of standard Arabic /q/, but not all the rural speakers use the glottal stop /ʔ/ variant, which is exclusively an urban feature. The /ʔ/, /g/, and /k/ are three variants of /q/. As previously mentioned, the /ʔ/ variant is used mainly in cities and urban centres, the /g/ variant is used in Jordanian and Palestinian villages, while the /k/ variant is mainly used by some Palestinian villagers. However, some rural speakers can switch from their rural variety to the urban variety /ʔ/ when they move or live in cities, particularly women and younger generations (Abd-el-Jawad, 1986; Sawaie, 1994). Another rural feature is the standard /k/ variant, realised as /č/. For example, /haka/ becomes /hača/ for 'he said or talked'. Jordanian rural speakers use the dental lateral *lam* which is realised as dark /ɬ/, while urban speakers use light /l/, such as 'gaal' for 'he said'. Al-Sughayer (1990) has shown that the MSA variety and the rural Jordan dialect have the same inventory of phonemes except for /q/, /g/, /k/, /č/, /ðˢ/, /ay/, and /aw/. MSA has /q/, /dˢ/, /aw/, and /ay/ while the rural dialect has /g/, /č/, /dˢ/, /e:/ and /o:/. The uvular plosive stop /q/ becomes a voiced velar stop /g/ in the rural and Bedouin Jordanian dialects, and the MSA velar stop /k/ corresponds to /k/ and /č/ in rural dialect (Abd-el-Jawad, 1986; Al-Sughayer, 1990). The rural dialect /č/ has first developed in the context of preceding or following /i/ and in other contexts as in /kiðb/ [čiðb]' for 'telling lies' and in /a/ /kaðab/ [čaðab] for "a liar" (Al-Sughayer, 1990, p. 27).

Jordan rural dialect speakers share the same phone with the MSA variety. For example, both varieties share the phones [θ] and [ð]. But the urban speakers use the corresponding phones [s], and [z] for the standard phones [θ] and [ð].

3.1.2.1.3 Characteristics of Jordan Urban dialect

The urban variety is exclusively spoken in cities and major towns, and it is believed that the urban dialect is "more prestigious and endowed with superior status" (Abd-el-Jawad, 1986,

p. 55). Most salient features in the urban dialects are that the uvular standard /q/ variant is realised as /ʔ/, for example, ‘qalb’ becomes ‘ʔalb’ for ‘heart’; the interdental fricative stop [θ] becomes [t~s], such as ‘θalj’ becomes ‘talj’ or ‘salj’ for ‘snow’. The velarized stop /dˤ/ becomes /d~z/, the interdental emphatic fricative /ðˤ/ is realised as /dˤ/ and /z/, and the dental emphatic fricative /ḍ/ is realised as [ḍ/, /z], and/or [ð]. The velar plosive /k/ remains the same in the urban dialect. Other phonologically changing features include the front vowels which correspond to the urban and standard varieties, e.g., /u/ become /i/ such as ‘fasˤul’ becomes ‘fasˤil’ for ‘season’, and ‘raṭuł’ becomes ‘raṭil’ for ‘pound’. The /u/ for /i/ do not correspond only to urban and standard varieties but also to Bani Hassan, a Bedouin dialect (, and also /a/ becomes /e/ such as ‘jubna’ becomes ‘jibne’ for ‘cheese’. The dark /ɬ/ becomes light /l/ in the urban dialect, e.g., ‘gaał’ in rural dialect becomes ‘ʔaal’ ‘he said’ in urban dialect, and ‘xaał’ becomes ‘xaal’ ‘uncle’, and ‘gałam’ becomes ʔalam in the urban dialect, meaning ‘pen’.

Table 3.1: Jordan Arabic phonemes

SA	Rural	Bedouin	Urban	Gloss
Q	ɡ ɡišṛtha	ɡ ɡišṛtha	ʔ ʔišṛtha	peel
K	č niħči	č niħči	k niħki	talk
θ	θ kθeːr	θ kθeːr	t~s kteːr	many
θ	θ maθalan	θ maθalan	t~s Matalan/ masalan	For example
dˤ	ðˤ ʔmradðˤ	ðˤ ʔmradðˤ	dˤ ʔmradˤ	diseases

Table 3.1 shows how each Standard phone is realised in Jordanian vernacular Arabic. For example, the voiceless uvular plosive /q/ is realised as /g/ in rural and Bedouin dialects but as /ʔ/ glottal stop in the urban dialect. The standard /K/ sound is realised as /č/ in both rural and Bedouin dialects but is realised as /k/ in the urban dialect. The voiceless interdental fricative /θ/ is realised as /θ/ in both rural and Bedouin dialects but as voiceless dento-alveolar plosive /t/ and as voiceless dental fricative /s/. The voiced velarised dento-alveloar stop /dˤ/ is realised as voiced velarised interdental fricative /ðˤ/ in rural and Bedouin dialects but realised as /dˤ/ in the urban dialect.

Table 3.2: Rural lexical items

Lexical	Gloss	Arabic Gloss
faḥna	We	فَحنا
θanyat	Others	ثانيات
bnugsˤud	We mean	بنقصُد or بنـچـصُد
sˤagur	Falcon	صقُر
MalabiShaa	Its clothes	ملابسها
niḥči	We talk	نحچهي or نحتشي
gišṛitha	Peel	قشرتها or چشرتها

Table 3.2 shows how rural speakers pronounce lexical items in their daily natural speech with family members or friends from the same dialect background. As we can see, the recorded speakers used their spoken features and words when they retold the reading text. For example, the word [faħna] is rural but not suitable in Standard Arabic. It should be pronounced in Standard Arabic as [F*a*naħn*u*]. The short vowel after the word F is not written; it is marked as a diacritic on the top of the letter F, and last letter is a vowel /u/, which is not written but marked as a diacritic on the top of the letter /n/. Another word [niḥči] where the voiceless affricate variant /č/ is heard in rural dialect is the voiceless velar stop variant /k/in Standard Arabic.

Table 3.3: Bedouin lexical items

lexical	English Gloss	Arabic Gloss
Man hu	Who he is	من هو
ḥamar ġamiğ	Dark red	حمر غامج

isma	Her name	إسما
Baliʔaslam	In Islam	بالاسلام
txadmuh	Serve him	تخدمه
gisˁita	Her story	قِصتا
wbidirasa	In studies	وبِالدراسه
ʔiʕtiga	free him	اعتچا or اعتقا
rgubtu	His neck	رُچُبتُّه orرقُبتُه
biʔAbi Alḥikam	Father of Alhikam	بأبي الحِكم

Table 3.3 shows the lexical items used by the Bedouin speaker, and how he pronounced them using his dialect when retold the Arabic text. These words are understood even though the speaker said them in his dialect. For example, the word [ḥamar ġamiğ] is identified as a spoken Bedouin word and never been said in Standard Arabic. The correct form for it in Standard Arabic is [Aḥmar ġamiq أحمر غامچ].

Table 3.4: Urban lexical items

lexical	English Gloss	Arabic Gloss
Amra:dˁ	Diseases	امراض
kadˁra	Green	خضرة
ṭabx	Cooking	طبخ
ʔaksada	Oxidation	أكسدة
talateh	Three	تلاته

Table 3.4 shows how the urban speaker retold the Arabic reading text. As can be seen even though he retold the text, he correctly used the Standard Arabic variants in his speaking Arabic text. The only urban variant he applied in his Arabic speech is the voiceless dento-alveolar stop /t/, where it should be the Standard Arabic variant /θ/ as shown in the last word in the first column.

3.1.2.2 Egyptian Arabic

Egypt is in North Africa, and it is the most populous country in the Arab world and the third most populous country in the African continent. Historically, the Arabic language was brought into Egypt along the Nile to the south, into Sudan and Chad (Versteegh, 2014).

Within Egypt, several Arabic dialects are spoken and distinguishable. Of these dialects are the dialects of the delta, the dialects of Cairo, the Middle Egyptian dialects, and the dialects of Upper Egyptian (Versteegh, 2014, p. 206). The Egyptian Cairene Arabic is the predominant variety, and it has been studied well. Egyptian Arabic is used widely among Egyptians in their daily communication. The Egyptian Arabic variety is considered the most comprehensible, easy to understand and to imitate across most of the Arabic speaking world because of the dominance of Egyptian cultural productions, especially in the fields of media, novels, poems, films, serials, plays, and songs (Albirini, 2011; Hachimi, 2015).

Egyptian Arabic shares a large number of phonological, morphological, syntactic, and lexical properties with other Arabic varieties. In this section, I will, in brief, outline relevant phonological and lexical features. Egyptian Arabic has many features that make it unique and set it apart from standard Arabic and other varieties of Arabic (see table 5 below). Of these phonological examples, one is the realisation of Standard Arabic phonemes /q/ and /j/, realised as /ʔ/ and /g/ in Cairene Arabic, while in Sa'aidi Arabic they are realised as /g/ and /j/ or /ʒ/ or /d/ (see Versteegh, 2014). The interdental fricative /θ/ is realised as a dental stop /t/ and/or dental fricative /s/, such as the standard Arabic is /θɑ:liθ/ becoming /sɑ:lis/ or /tɑlit/ for 'third' in Egyptian colloquial Arabic (Schmidt, 1986). The voiced velarised interdental fricative /ðˢ/ is realised as alveolar fricative /z/ and/or /s/. The diphthongs /aw/ and /aj/ become /eɪ/ and /o:/ respectively. The interdental fricative /ð/ is realised as voiced alveolar fricative /z/, in that /taðɑ:kir/ becomes /tazɑ:kir/ for 'tickets', for example.

Egyptian English is very distinctive and easily identified. For example, the voiced interdental fricative /ð/ becomes /z/, meaning that the pronoun /ðeɪ/ becomes /zeɪ/ whether the /ð/ phoneme comes at the beginning of the word or the end. Also, we do not have the palato-alveolar fricative /ʒ/ in Standard Arabic, but it is used in spoken varieties, especially in Egypt, particularly within the Cairene Arabic variety and among urban speakers. For example, the voiced velar stop /g/ is realised as /ʒ/. Lexically, the Egyptian Arabic variety has borrowed a number of words from Turkish, French, English, Greek, and Italian (see Hafez, 1996). Egyptian Arabic's word order is similar to most colloquial spoken Arabic varieties that contain both Subject Verb Object (SVO) and Verb Subject Object (VSO) (Watson, 2002).

Table 3.5: Egyptian Arabic phonemes

Phoneme	Realisation	Example	Realised as	Arabi gloss	English gloss

p	b	Passport	Basboor	بسبور	Passport
v	f	Villa	fella	فيلا	Villa
v	b	Veranda	baranda	برنده	Veranda
θ	s	Thaqaafa	saqaafa	سقافة	Education
q	ʔ	Thaqaafa	sa'aafa	سئافة	Education
θ	t	Thalaatha	talaata	تلاتة	Three
z	s	Pizza	betsa	بيتسا او بيتزا	Pizza
k	g	Cravat	garafatta	قرفطه او أرفطه	Tie
l	n	Journal	gornaan gornaal	قورنان او قورنال	News paper
ð	z	Tickets	taza:kir	تزاكر	Tickets

Table 3.6: Egyptian lexical items

lexical	English Gloss	Arabic Gloss
tani	again	تاني
natiga	result	نتيجة or نتيقة
ʕaqil	mind	العئل
ḥaga	a thing	حاجة or حاقة
masalan	for example	مسلاً

Table 3.5 shows how the Egyptian spoken variety affected the pronunciation of the Standard Arabic variants and the English phonemes. As seen in table 3.5 in Arabic we only have the voiced bilabial stop /b/, but we do not have the voiceless bilabial stop /p/. This means we mix /b/ with /p/. For example, the word [people] is pronounced /bi:bəɬ/. Also, the variant /θ/ is realised as either /t/ or /s/ whether in Arabic or in English. Table 3.6 provides some lexical items the Egyptian speaker produced indicating his Egyptian mother tongue (speaking in Arabic) in his pronunciation. Also, the English variant /ð/ is realised as /z/, for example, when the word /ðeɪ/ is pronounced as /zeɪ/.

3.1.2.3 Lebanese Arabic

Lebanese Arabic is a variety of North Levantine Arabic, which has significant linguistic influences borrowed from Middle Eastern and European languages. It is somewhat different

from other Arabic varieties due to the fact that the majority of Lebanese people are bilingual, mixing Lebanese Arabic with English and French in their daily conversations. Lebanese Arabic is part of Levantine dialectal Arabic, which is also called the Syro-Lebanese dialect, which refers to a number of urban dialects used in Syria, Lebanon, Palestine, and Jordan (Al Huneety, 2015). Their identification under the Levantine Arabic dialect is due to the similarities among them. These countries have many dialects, some of them being rural and Bedouin dialects that are spread across greater Syria. The urban dialects stand out as prestige dialects spoken in capital cities, such as Damascus in Syria, Beirut in Lebanon, Amman in Jordan and Jerusalem in Palestine, as well as other main cities (Versteegh, 2014). The Levantine urban dialect is closer to the Egyptian Arabic variety than the gulf Arabic varieties. The perception of Moroccan participants towards Lebanese Arabic is associated with the best Arabic, ranking high on status and on social attractiveness dimensions and is labelled classy, romantic, sexualized, and spoiled (Hachimi, 2015). Phonologically, some younger female Moroccan participants described the Lebanese Arabic dialect as raising the feminine ending /a/ and long /aː/. It is also perceived as less suitable for men and is associated with 'homosexuality' (Hachimi, 2015, p. 54).

Lebanese Arabic has three short vowels /i/, /u/, and /a/, and five long vowels /aː/, /eː/, /oː/, /iː/, /uː/. The Lebanese Arabic dialect is perceived as the most prestigious variety in the Arab world. Phonologically, the standard variant /q/ is realised as /ʔ/ and /k/, for example 'qaal' is realised as 'ʔaal', and 'kaal' for 'he said'. The interdentals /θ/, /ð/ and /dˤ/ are realised as /s/, /t/, /d/, /z/, and /ḍ/ respectively. The voiced post-alveolar fricative /dʒ/ is sometimes realised as /ʒ/ (Khattab, 2007; Yeni-Komshian et al., 1977).

Table 3.7: Lebanese lexical items

Lexical	English Gloss	Arabic Gloss
ʔ***i*** sˤ***a***sˤ	stories	إصص
t***a***rʒm***i***taː	translated	ترجمتا
ʕ***il***aːʒ	treatment	علاج
k***a******z***aː	such	كزا
xaɪz***a***raːn	cane	خيزران
tmaːnmya	Eight hundred	تمانمية

Table 3.7 shows how the Lebanese speaker pronounced some Standard Arabic variants in his local Lebanese dialect. For example, the variant /z/ in word /k***az***aː/, which means 'such' in English, should be written or pronounced in Standard Arabic as /k***að***aː/. Also, the Standard Arabic variant /q/ is pronounced as /ʔ/ in the word /ʔ***i***sˁ***a***sˁ/, but the correct Standard Arabic form is /q***i***sˁ***a***sˁ***un***/. One word in the table above he pronounced correctly in Standard Arabic, being the word xaɪz***a***raːn which means cane in English. He pronounced the Arabic diphthong /aɪ/ in the Standard Arabic form instead of the local spoken diphthong /eɪ/.

3.1.2.4 Iraqi Arabic

Iraqi Arabic is not different from other language situations across Arab countries. Literary Arabic (LA) is the official language in Iraq and used in various formal domains such as media and formal occasions. LA is not used in informal conversations or day-to-day conversations, but some of its forms are sometimes used by its people (Murad, 2007). In Iraq and other Arab countries, the main linguistic scene is embodied through the existence of standard Arabic and dialects of Arabic.

Standard Arabic has only 28 consonants, but Iraqi Arabic has 32 consonants which are /p/, /g/, and /č/. The present section provides a statement about the realization of each of the Iraqi spoken Arabic phonemes. Iraqi Arabic houses all the standard Arabic consonants except the emphatic dental fricative /dˁ/. The standard phoneme /dˁ/ in Iraqi Arabic is almost always realised as voiced velarised interdental fricative /ðˁ/. This merging is also found by many researchers in different Arab speaking countries such as in Kuwait.

/g/ and to a lesser extent /ɟ/ (as produced by illiterate elderly people) occur as reflexes of /q/, which is associated with formal speech. While / ɡ / and /ɟ/ forms are associated with colloquial speech (Abu-Haidar, 1987; Alsiraih, 2020).

Iraqi Arabic in general is:

/q/ is realised as /ɡ/ as in gal for 'he said'

/q/ is realised as /ɟ/ as in jidir for 'saucepan'

/q/ is realised as /k/ in limited circumstances as wakit for 'time', in LA is waqt

/k/ is realised as /č/ as in ča:n for 'he was'

/θ/ is realised as /θ/ and /t/ as in θalāθa, θlāθa and tlāθa for 'three'

/dˁ / is realised as /ðˁ / for example abyadˁ becomes abyaðˁ for 'white'

On the lexical level, the writing is only in Standard Arabic, but Iraqi Arabic is dominant in everyday oral communications. For example:

Table 3.8: Iraqi lexical items

Word	English Gloss	Arabic Gloss
Malna	Our- things belong to us	مالنا شيئ يعود لنا
Aku	There exists	اكو
Kulish	very	كلش
ħalawəthaa	Beauty	حلاوتها
Zawjta	His wife	زوجتا
radet	wanted	رادت
itʕjəb	Was wonder	اتعجب
ʕaːftha	Get tired of	عافتها
bnia	Girl	بنية
inʕ***i***jəb	Like her	انعجب
ʔansˁaːr	Supports	آنصار
jawʕaːn	Hunger	جوعان

Table 3.8 shows how someone can identify the Iraqi Arabic variety through lexical items. As can be seen, some words in spoken Iraqi Arabic could inform the reader and/or the listeners that these lexical items belong to the Iraqi variety, such as, Aku, Maku and Kulish.

3.1.2.5 Maghrebi Arabic

The Arabicisation of Maghrebi Arabic, including Mauritania, Morocco, Algeria, Tunisia and Libya, took place during Banu Hilal's invasion in the tenth or eleventh centuries. The dialects of the Maghreb Arabic belong to two stages, referred to as pre-Hilali and Hilali dialects. The pre-Hilali or Andalusi dialects (including Algiers, Fes, Rabat, Sale, Tunis, Tlemcen, Tangiers, Tetouan, Tripoli, etc.) are considered sedentary dialects (, and spoken in cities and in areas outside the cities that were Arabicised early on. The pre-Hilali dialects

are in two groups: the eastern pre-Hilali dialects spoken in Libya, Tunisia, and Eastern Algeria; these dialects are characterised by the retention of the three short vowels, and the Western pre-Hilali dialects are spoken in western Algeria and Morocco; these dialects have only two short vowels and have developed an indefinite article. For instance, in Moroccan Arabic, waħd əl-mara 'a woman' is always used in combination with the definite article. The Hilali dialects represent the Bedouin dialects spoken in rural areas and in some cities (Versteegh, 2014, p. 2011 and 2012). The Bedouin dialects are spoken on the plains and in cities such as Casablanca, Marrakech, Mohammedia, and El Jadida (Boudlal, 2001), while the sedentary dialects are spoken in Rabat, Fez and other cities.

It is also believed that the North African Arabic varieties are regarded as one variety because they share common features despite the linguistic diversity among them, which distinguishes and differentiates their Arabic variety from other Arab countries. All Maghrebi Arabic varieties are classified as one group because of one morphological aspect in the verbal system, which is the prefix /n/ of the first person singular in the imperfect verb. For example, Moroccan Arabic has nəktəb/nkətbu which means 'I write/we write', and the second person of the plural of the imperfect verb, təktəbu 'you [plural] write' becomes tkətbu in Moroccan Arabic (Versteegh, 2014, p. 213 and 2014). The Maghrebi dialects have a simple vowel system, consisting of two short vowels (/a/ and /i/) and /u/, and three long vowels, /aː/, /iː/, /uː/. For instance, the word /katab/ becomes in Maghrebi Arabic /ktəb/ 'he wrote'. The syllable structure of the Maghrebi Arabic has undergone a sequence of changes of the type CvCC to CCvC, for example, saqf becomes sqəf 'roof; qabr becomes qbər 'grave'.

3.1.2.5.1 Characteristics of Moroccan Arabic

Moroccan Arabic, called 'Darija', is known for its incomprehensibility to the rest of the Arab world, and was influenced by African and European languages such as Berber, French, and Spanish. The coexistence with the Amazigh language and people has surely affected the Moroccan Arabic variety in terms of grammar and lexicon. Moroccan Arabic is a collection of dialects; not homegrown, but a result of Morocco's settlement history (Heath, 1997). The indigenous people of Morocco, the Amazigh (Berber), have inhibited the land since at least 10,000 BCE. The Umayyad Arabs conquered the region in the eighth century, followed by the invasion of Bani Hilal (nomadic type dialect) from the Arabian Peninsula, and an influx of Muslim and Jews from Spain (Heath, 1997, p. 205). The Berber languages, especially in Morocco, are still dominant and spoken in the mountainous areas. France and Spain

colonized Morocco during the 19th century. As a result, many Moroccan people speak Arabic, Tamazight, French and/or Spanish from an early age and can switch between them within the same conversation or sentence. The Darija dialect is used for daily conversations, and Standard Arabic and French is used for government business. Moroccan Arabic is divided into three principal variants: Northern, Eastern, and Western. These three regions are influenced by whichever country historically ruled the area. The official language is mainly Arabic, with many words borrowed from Berber, French and Spanish.

Because of the contact with the Amazigh, the Moroccan short Arabic vowels /a/ and /i/ are deleted, with a short central vowel /ə/ developed instead, for example, in baħr meaning 'sea', the schwa vowel /ə/ replaces the /a/ sound and becomes / bəħr/, /kbər/ for 'grows up', /fara:ʕina/ becomes fəraʕna for 'pharaoh'. The /u/ is retained whether the next consonant is labial, velar or uvular (Ali et al., 2008; Lahrouchi, 2018). For example, /xubz for 'bread' is still heard. It has been argued that the long vowels of standard Arabic become short vowels, while the schwa has replaced the standard or classical short vowels. Still, the distribution of schwa is limited as it only appears in closed syllables. The classical Arabic diphthongs are reflected as short vowels, e.g., the [aw] diphthong is reflected as /u/ as in 'qaws' becomes qus for 'arch', and the [aj] diphthong is reflected as /i/, such as saif becomes sif for 'sword' (see Lahrouchi, 2018, p. 41 and 42).[4]

Moroccan Arabic or Daija differs from standard Arabic. The voiceless interdental fricative θ is realised as voiceless dental stop /t/, for instance, θəla:θa becomes təla:ta for three. The voiced interdental fricative /ð/ is realised as voiced dental stop /d/, for instance, tlami:ð becomes tlami:d for students, /ðaka?/ becomes /daka?/ for intelligence, /haða/ becomes /hada/ for 'this'. The dental emphatic stop /tˤ/, the interdental emphatic fricative /ðˤ/, and the dental emphatic fricative / dˤ / are realised as /tˤ/ in the north, such as /bei dˤ/ is said /beitˤ/ for 'eggs', but in Casablanca, Rabat and Qunaitra, they retain the same variant. The uvular stop /q/ qāf is realised as /q/ such as /qabl/ 'before', /ʔ/ such as / ʔalbi/ for 'heart', or / g / such as /ga ʕ/ for 'all'. The Moroccan Arabic of Fez some people in Tetuan, Tangier, and old traditional cities called "Madina" tend to use the glottal stop /ʔ/ instead of /q/, but the use of /ʔ/ is or in the process of fading away and is not used among the young generation (Boudlal, 2001).

Lexically, two of the most common words that distinguish Moroccan Arabic from other Arabic Maghrebi varieties or other Arabic varieties are the words (dya:l) and (biza:f).

[4] For more information of the influence of Amazigh language on Moroccan Arabic, see Lahrouchi, (2018).

This word (dyaːl) takes the possessive pronoun instead of the noun. For instance, our (dyaːlnaː), your (dyaːlkum,), my (dyaːliː), and so on. The word (bizaːf) means a lot or very much. The definite article in formal Arabic is dropped when adding a possessive pronoun. The alif /aː/ is often dropped in Moroccan Arabic and only the laːm /l/ is pronounced, for instance in standard Arabic we say [beɪti] for my house but in Moroccan spoken Arabic we say 'ldar dyaːliː' for my house, /ldwʔa/ instead of /ʔaldawʔa/ for medicine. The table below contains excerpts from the Moroccan speaker while talking Arabic speaking style. It provides some lexical items the Moroccan speaker used and how listeners reacted when they heard him talking in his local Moroccan variety, identifying his nationality from his speech or the lexical items, he used.[5]

Table 3.9: Lexical items used in Morocco

Lexical items	English meaning	Arabic meaning
kənəqʃuː	Discuss	كينقشوا او كيناقشوا
shkoun	who	شكون
tzad	was born	تزاد
Liħyuuṭ	walls	لحيوط
kaifash	how	كيفاش
Faxaːm	Luxurious	فخام
mizyan	good	مزيان
Francis	French	فرنسيس
ʕrobi	Bedouin	عروبي
Dakʃi ʕlaj	That's why	داكشي علاج

Table 3.9 shows the lexical items the Moroccan speaker used to retell the Arabic reading text. A non-Maghrebi speaker or specifically a non-Moroccan speaker might not understand or comprehend what he means or what he had said. Some of these lexical items were not comprehensible and/or intelligible to the researcher and non-Maghrebi listeners (particularly Middle Eastern people). This means the local varieties he used are not close to standard Arabic; that is why they were not comprehensible to non-Maghrebi speakers, unlike the

[5] I would like to thank my friend Khaoula from Morocco who helped me in transcribing speakers' voices, particularly incomprehensible lexical items shown in table 7.

other Middle Eastern countries where even their retold speech was understood close to the Standard Arabic.

As shown above in section 3.1, Arabic is classified into Standard Arabic and Colloquial Arabic, where the Standard Arabic is only one version or form of Arabic clearly understood and comprehensible among all Arab speakers, whereas the colloquial varieties are regionally understood but not comprehensible to all Arab speakers. For example, Middle Eastern people can by-and-large understand each other, but while Maghrebi Arabic varieties (Western Arabic) are comprehensible to Moroccan, Algerian and Tunisian people, Middle Eastern Arab people find them difficult to understand. I also provided characteristics of each language variety in section 3.1. I provided some examples where I extracted some speech samples from the recorded speakers and tabulated them. It can be noticed that the local lexical items selected from Jordanian, Egyptian, Iraqi and Lebanese speakers are close in form to the Standard Arabic and comprehensible. However, they replaced the Standard variants into their local variants, but the lexical items, to a certain degree, remain intact. However, the Moroccan speaker has used completely different lexical items in speaking Arabic different to the Standard Arabic. Some clauses or phrases in the Moroccan Arabic speaking style as noted previously have become incomprehensible to Middle Eastern Arab people. The next section will provide studies of comprehensibility and accentedness and how different varieties are perceived differently. Also, I investigate how a speaker's accent might trigger different reactions in terms of status and solidarity and terms of comprehensibility and accentedness.

3.2 Studies of Comprehensibility and Accentedness

The discussion in the previous section showed that there is considerable variation across colloquial Arabic dialects, that they are not all mutually intelligible. Some are perceived to be 'strong' accents, and some are perceived to be 'mild' accents. This applies when speaking in Arabic, as well as when Arabic L1 speakers speak English (as their L2). The nature of 'strong' or 'mild' accents connects to studies of accentedness and comprehensibility. Accentedness is X, comprehensibility is Y. These terms have been most often explored in second-language acquisition research, often but not exclusively as a way of understanding whether a speaker has achieved a naturalistic accent in an L2 (Gnevsheva, 2015). In this thesis, I explore the idea that accentedness and comprehensibility are related to the language attitudes listeners may hold about the perceived speakers. That is, a rating about accentedness or comprehensibility is possibly also a measure of a listener's attitude. I

elaborate on this notion below, but before that, in this section, I discuss some existing literature about accentedness and comprehensibility in general.

This section reviews some existing studies on listeners' attitudes towards English speech produced by English native speakers and non-native English speakers in terms of accentedness and comprehensibility, to measure how accented or comprehensible their speech is on a number of scales. Generally, accentedness assessment is dependent on how listeners perceive accented speech. Accordingly, listeners' attitudes towards how strong a foreign accent is affects accentedness and comprehensibility scores (Dragojevic et al., 2017).

Foreign-accented speech is defined as "non-pathological speech produced by second language learners that differs in partially systematic ways from the speech characteristics of native speakers of a given dialect" (Munro, 1998, p. 139). In second-language learning and acquisition, a 'foreign accent' is defined as a speech pattern inconsistent with native speakers (Porretta, 2015). As mentioned in the introduction chapter, the focus in this thesis is on whether, for example, a speaker's accent can affect the listener's attitudes. A number of studies found that speakers with a strong foreign accent are evaluated more negatively than speakers with a mild foreign accent because a strong accent is negatively stereotyped, more difficult to understand and takes a long time to comprehend (Dragojevic et al., 2017; Munro & Derwing, 1995a; Winke et al., 2013).

A study by Munro and Derwing (1995b) investigated how participants assessed the validity of statements read by an equal number of English native speakers and Mandarin native speakers. They employed several English native listener judges to measure whether a foreign-accent was understandable, how difficult it was to understand a foreign-accent, and how much time it took native listeners to understand a foreign-accented speech. Results showed that listeners spent ample time to understand Mandarin accented utterances than native speaker utterances. This conflicts with Munro (1998), who asserts that listeners can easily or with little difficulty understand non-native speakers' speech when talking in a listeners' first language.

Several studies on foreign-accented speech have begun to address the concept of 'foreign accent', demonstrating that a wide range of speaker-related variables may influence the degree of foreign accent (Piske et al., 2001; Porretta et al., 2015), and listeners have been asked to measure the degree of accentedness by using rating scales (Derwing & Munro, 1997; Flege et al., 1995).

Speaker-related variables which in general might affect the degree of accentedness are, for example, pronunciation factors (Derwing et al., 2004; Kang, 2010; Munro & Derwing, 2006), speech rate, fluency, age of L2 learning, length of residency in countries where L2 is dominantly spoken as L1, and amount of native language L1 use (e.g., learners' mother language) (Dewaele & McCloskey, 2015; Munro & Derwing, 1994, 1995a; Piske et al., 2001; Radomski & Szpyra-Kozłowska, 2014). The two factors which appear to be the most important in influencing the degree of foreign accent are the age of L2 learning and the amount of native language L1 use (Flege & Liu, 2001). However, the speaker variables are not very well related to my thesis except pronunciation and familiarity with an accent.

Foreign accent can cause stereotypical or biased evaluation towards accented speech, and research suggested that foreign-accented speech, to an extent, is perceived as being less prestigious than native speech (Dewaele & McCloskey, 2015; Dragojevic & Giles, 2016; Dragojevic et al., 2017; Lindemann, 2002, 2005; Munro & Derwing, 2006, 2011). Features that listeners focus on which might affect the degree of accentedness are segmental and suprasegmental features, such as pronunciation hesitation that distract and annoy listeners, making non-native speakers seem less comprehensible (Kang, 2010). Winke et al. (2013, p. 504) showed that "segmental cues contribute more to perceived accentedness in L2 speech than prosodic cues do".

Comprehensibility refers to "listeners' perceptions of difficulty in understanding particular utterances" (Munro & Derwing, 1995a, p. 291). Munro (1998, p. 139) states that any human speech perception must consider that listeners can understand with little or no difficulty speech that deviates noticeably from typical native-speaker utterances. I argue with Munro (1998) that an Arabic listener might have difficulty understanding an Arabic language variety if they are not familiar or do not communicate with using a particular language variety (see figure 5.15 on the understating trait in the result chapter 5). For example, the Moroccan colloquial Arabic variety is difficult to comprehend and unintelligible to non-Maghrebi people, particularly Middle Eastern Arab people (Albirini, 2016; Hachimi, 2015).

Listeners-related factors which can affect the comprehensibility of speech are pronunciation, grammar, the familiarity of topic, accent, L2 speech, listeners' attitudes and expectations about the quality of speech produced by non-native speakers and expectations about talkers (Anderson-Hsieh & Koehler, 1988; Gass & Varonis, 1984; Hayes-Harb & Hacking, 2015). Derwing and Munro (1997) conducted a study and found that listeners are

92% dependent on segmental aspects. Munro and Derwing (1995a, pp. 287- 288) argued that phonology interferes with comprehension more often than grammar.

Many studies have suggested that accentedness and comprehensibility are strongly correlated (Derwing & Munro, 1997; Munro & Derwing, 1995a; O'Brien, 2016; Trofimovich & Isaacs, 2012). Other research studies have shown that while non-native speech is indeed accented, it could be comprehensible and/or intelligible to native and non-native speakers (Jaber & Hussein, 2011; Winters & O'Brien, 2013). For example, in a study examining which linguistics aspects in L2 speech are related to accentedness and comprehensibility, Trofimovich and Isaacs (2012) analysed a picture elicited from 40 French speakers of English for different measures, including accentedness and comprehensibility. They found that accentedness is associated with aspects of phonology, whereas comprehensibility, in addition to pronunciation errors, is associated with other linguistic aspects of language such as grammar, fluency, and vocabulary. However, native speaker listeners pay attention to pronunciation rather than lexicogrammar. Additional features, such as manner of articulation, some vowels, and intonational deviations, were more salient to listeners and played a more significant role than other features when judging the accentedness of L2 speech (Winters & O'Brien, 2013).

All the above linguistic features are believed to be important when judging accentedness and comprehensibility. Other extra-linguistic factors that affect accentedness ratings are the speaker's ethnicity and physical appearance (Gnevsheva, 2015). The ethnicity of the L1 speaker might influence not only the perceived accentedness but also comprehensibility and intelligibility, which can either negatively or positively affect the perceived comprehensibility and accentedness. It has also been found that familiarity with non-native speaker's accent or dialect facilitates comprehension and promotes listeners' willingness to comprehend a message even if it is unintelligible (Carlson & McHenry, 2006, p. 72; Gass & Varonis, 1984).

There have been few studies that employed native L1 listeners and L2 non-native listeners. For example, Winters and O'Brien (2013) employed three groups of listeners. The first group was monolingual listeners of English. The second group was native English listeners who were proficient in German, and the last group was native German listeners, proficient in English. They were asked to listen to native German and English speakers proficient in both languages, reading 24 sentences in Standard English and Standard German. Results have shown that all the English speakers were rated less accented when speaking in their native language by the English listeners than German listeners, and the

German speakers were rated less accented by German listeners than by English listeners. Moreover, listeners identified more words successfully when speakers of their native language produced them.

Dalton-Puffer et al. (1997), using the verbal-guise technique, investigated Austrian's attitudes towards varieties of spoken English, including General American English, RP English, near RP British English, Austrian-accented British English, and Austrian-accented American English, determining whether the variety of spoken English affect subjects' judgments. Respondents were also asked to identify the speakers' places of origin and whether misidentification could affect the interpretation of the data. Five educated university female speakers represented the above English variety, and 132 male and female Austrian respondents, mostly German speakers, took part in the study. Results revealed that native speakers of English were preferred to the non-natives. The RP speaker, followed by an American speaker and near-RP speaker, was the most prestigious in all circumstances and finally non-native accents. RP speakers were rated more positively as radio announcers than GA and near RP speakers, but GA and near RP speakers were rated higher than RP as potential friends. RP accent was best preferred; respondents prefer the accent with which they are familiar at school. Most subjects view RP pronunciation as the most favourable model for students of English.

Other studies have examined the degree to which listeners are able to identify the speaker's regional dialect while listening to short audio clips (Leach et al., 2016). In a study that examined listeners' perceptions of speakers' regional dialect, Leach et al. (2016) argue that listeners' correct identification of regional dialect is supported by their geographical proximity to a particular regional area (Montgomery, 2007, 2012). In this thesis, listeners were asked to listen to a number of speakers representing some Arabic varieties talking in two different languages (Arabic and Arabic-accented English) and styles. Then they were requested to identify the speakers' accents (forced options provided) and then rate their accents across status and solidarity dimensions and on accentedness and comprehensibility traits on 7-point slider scales.

In this thesis, in terms of accentedness and comprehensibility, I will look at if the speaker's accent in Arabic and English in reading and speaking styles affects listeners' attitudes and perception. In another language, the listeners might be affected by the accent of the speaker. Moreover, if the listener identifies the speaker's accent, they can rate him high or low. Accentedness in Arabic means when the speaker talks in their local variety,

being away from the Standard Arabic dialect conventions, whereas when they talk in English, they are accented.

3.2.1 Comprehensibility

As mentioned in the introduction chapter, comprehensibility refers to how easy or difficult a speech is understood. Listeners' attitudes and perceptions of non-native accents might hinder their comprehension of non-native speakers' speech in English (Dragojevic et al., 2017; Lindemann, 2002).

It has been found that the accent that is not well-known to listeners would be rated less comprehensible (van Gelder, 2019). Matsuura et al. (2014) found that Japanese participants studying English in Japan rated the unfamiliar Indian accent as more difficult to comprehend than the familiar North American accent. Few studies have employed non-native English speakers of different ethnicities (Dragojevic et al., 2017; Jaber & Hussein, 2011), but they employed native English listeners.

Gass and Varonis (1984) investigated the effect of different types of familiarity on non-native speech comprehensibility. Four speakers (two Japanese and two Arabic speakers) participated in the study. They were recorded reading a short story and two sets of sentences related and unrelated to the story. 142 native English-speaking student listeners were asked first to listen to the first set of sentences and write down what they heard, second to listen to the story and write a summary so as they can understand it, and finally to listen to the second set of sentences and write down what they had heard. Results show that sentences related to the story were more comprehensible when they heard them after the story was read. This suggests that familiarity with a topic facilitates comprehensibility, and familiarity with non-native speakers increases the speech's comprehensibility.

Matsuura et al. (1999) investigated the effect of familiarity and unfamiliarity of 106 Japanese university students with different English accents of American English and Irish English in terms of intelligibility and comprehensibility. The listeners listened to six speech samples, including three American and three Irish speakers, who were asked first to identify each speaker's nationality, and secondly, to test each speaker's speech intelligibility in five multiple-choice comprehension check questions. In order to check listeners' comprehensibility of each sample, listeners were asked to present their subjective judgment on 7-point scales for each sample. The amount of exposure to and familiarity with English varieties among Japanese listeners was seen to contribute to perceived comprehensibility, but listeners did not necessarily understand the message. Nonetheless, it is assumed that

familiarity with and exposure to speech variety had a positive psychological effect on the listeners. Listeners' English proficiency differs in different speakers' comprehensibility ratings based on their familiarity with a particular English variety, either dialect or idiolect. The large scale-studies are needed to measure attitudes towards varieties of English. It is believed that if language learners had more exposure to broader language or speech varieties, this would enable them to feel more confident, less inhibition, and less bias towards a particular speech variety and more tolerance to different varieties such as English.

It is believed that foreign-accented speakers were rated lower for high status positions and native speakers are more qualified for higher paid positions (Brewer, 2013; Matsuura et al., 1999). It is also assumed that standard language speakers are likely to be employed and obtain higher paid positions than non-standard language speakers (Brewer, 2013).

A study conducted by Jaber and Hussein (2011) investigated English listeners' attitudes about non-native accents, namely Jordanian-accented English, French-accented English, and Japanese-accented English, on the intelligibility of the speech of non-native speakers. The speakers' English proficiency is advanced and were professionally trained. Six different short stories were being recorded by male and female participants, each speaker recording one short story. The raters were 110 native English speakers, the majority being from the USA, but some were from Britain, Canada, and Australia. Listeners were asked to fill out an online questionnaire and rate each speaker on intelligibility, understandability and likely profession. Results showed that Jordanian accented English speakers were most positively evaluated, followed by French and Japanese speakers, respectively. In terms of intelligibility and understandability, Jordanian speakers were the most intelligible and easy to understand, and the Japanese speakers were the most difficult to understand. Also, raters assigned the Jordanian speakers as having the most prestigious profession, such as medicine and teaching. The results of Jaber and Hussein (2011) are not in line with (Flege, 1987) who claimed that foreign accents are associated with low intelligibility and are assigned negative personal evaluations.

The studies above dealt with cases where native speakers of English judged or evaluated non-native speakers of English. However, the present research focuses on native Arabic listeners judging different Arabic varieties and Arabic-accented English speakers.

The Arab listeners have had very little exposure and opportunity to communicate and interact with each other in English, and lack familiarity with other varieties when talking in English. Therefore, familiarity with other Arabic varieties should be examined as a

possible factor that affects listeners' judgment. Listeners' familiarity with English in general and familiarity with a particular variety of English for a particular speaker, as well as a regional variety, seemingly influence the comprehensibility judgment (Matsuura et al., 1999). In the Middle East, Arab people have many chances to listen and communicate with Arabs from the same region or area, but they have few options to listen and communicate with Maghrebi Arabic speakers, including Moroccan, Algerian and Tunisian speakers. Thus, this is another reason the present study focuses on the effect of familiarity with different Arab accents of different styles and languages.

3.3 Language attitudes and hireability

The statement "I would like to hire this person to work as a news presenter" was included in the present study. A statement of suitability for the position of news presenter has been investigated in other studies (Dalton-Puffer et al., 1997; Zhang, 2010). The position of news presenter has social status attached to speakers of a standard variety (Zhang, 2010). The aim of this statement was to examine Arab listeners' acceptance of standard and non-standard varieties of Arabic and Arabic-accented English speakers to work as news presenters. A news presenter is representative of local community or language variety, and, therefore the results obtained from this statement or question can be used in the ratings of verbal-guise technique (Zhang, 2010). The discussion in sections 3.2 and 3.2.1 above showed that a comprehensible accent is rated high regardless if the speaker is accented or not. Researchers in language attitudes have called for listeners to evaluate the speakers for their hireability based on how accented or comprehensible they sound. Listeners make judgments based on what they hear. As noted above, listeners perceive a strong accent to be less suitable for non-high status jobs, and the use of the standard variety is always perceived to be more suitable for high-paid jobs employment than non-standard varieties (Zhang, 2010). I elaborate on this notion below is that in this section I discuss existing literature about how being accented and comprehensible affects the ratings of hireability.

This section focuses on how language varieties or dialects, accented speech, comprehensibility and variety identification affect a speaker's hireability or employability. I review studies in which judges were asked to evaluate the speakers for their likelihood to be hired for particular jobs based on what languages and/or variety styles are spoken. As previously mentioned, a speaker's accent or dialect may cause positive or negative reactions among listeners, and when a foreign language is spoken, e.g., English as a second language, the speech features of the first or native language may be carried into the foreign language,

resulting in accented speech (Carlson & McHenry, 2006, p. 70). The fact is that speakers with non-standard accents are rated less suitable for high-status jobs and are given lower-status jobs (A. Cargile, 2000). Carlson and McHenry (2006) argued that even a non-standard American English speaker was rated lower than Spanish and Asian speakers on employability in the USA. Several language attitudes studies using matched guise and verbal guise have shown that people prefer standard varieties or dialects spoken by powerful groups, especially for high-status jobs (Lindemann, 2003). As previously mentioned, familiarity or exposure to an accent or variety is found to facilitate comprehensibility. This leads us to determine the amount of perceived accent or comprehensibility that could affect a speaker's employability (Carlson & McHenry, 2006; Gass & Varonis, 1984; Matsuura et al., 1999). In this thesis, I have investigated if a speaker using an Arabic reading style will be rated higher on job employment as a newsreader than a speaker using an Arabic speaking style. As well as if a speaker reads in English reading style will be rated higher on the same job than a speaker reads in English speaking style.

A. Cargile (2000, p. 166) has stated that a standard accent is often concomitant with status, media, and power, whereas a non-standard accent or variety is often associated with lower socioeconomic success. It has been found that foreign-accented speakers were rated suitable for lower status jobs (Brewer, 2013; A. Cargile, 2000; Carlson & McHenry, 2006), and in relation to vernacular English varieties, speakers of African American vernacular English were rated lower on status jobs by American listeners (Hopper, 1977). Other research studies (Carlson & McHenry, 2006; Hopper, 1977) found that employment interviewers prefer the standard American English speech over other accents or dialects when considering candidates applying for high-status jobs.

Brewer (2013) investigated the speaker's text style and found that those who read a passage were chosen for a supervisor position, and those who spoke freely were chosen for labour positions. In language attitudes, researchers have used semantic differential scaling techniques to measure the speakers' speech samples. This type of technique has been utilised, according to Hopper (1977), in employment situations which shows significant predictors of making decisions for high-status positions.

Other studies have examined prejudice towards foreign-accented and non-foreign accented speakers. Results show that foreign-accented speakers are perceived as less suitable for high-status jobs but suitable for low-status jobs such as being a cleaner (A. C. Cargile, 2000). These studies confirm that accent is essential and affects applicants' chances at least during an employment interview.

Hopper (1977), in his study, concluded that standard speakers are more employable than non-standard speakers. Also, black speakers who use a standard variety are considered more employable than white speakers who use a non-standard variety, in relation to high-paid positions such as being a salesman or a supervisor.

Carlson and McHenry (2006) investigated the effect of the speaker's ethnicity, the amount of perceived accent or dialect, and perceived comprehensibility, on employability ratings. Three bilingual female speakers representing different ethnic groups (Spanish-influenced-English, Asian-influenced- English, and African American Vernacular English (AAVE)) were recorded. They were able to modify their speech to include features of Standard American English (SAE) and linguistic features from their ethnic groups. The speakers were asked to read prepared scripts, which included phonemic variations associated with their language group. In order to validate the speech sample, sixty multilingual and monolingual adult participant listeners from different educational levels working in the field of human resource management listened to the recorded applicants and rated them on a scale of 1 to 7 on different dimensions: employability (1- least likely to employ, 7- most likely to employ) and comprehensibility (1- difficult to understand, 7- easy to understand). Results show that AAVE and Spanish-influenced English speakers were rated higher on comprehensibility than Asian-influenced English speakers in the minimally perceived condition (SAE). In the maximally perceived condition (ethnic heritage features), a Spanish-influenced English speaker was rated higher than both AAVE and Asian-influenced English speakers. In terms of employability, results show that if an accent or a dialect is minimally perceived, ethnicity or accent or dialect does not affect employability. However, in maximally perceived conditions, Spanish-influenced English speakers were rated higher than Asian-influenced English and AAVE speakers. Despite low comprehensibility, an Asian-influenced English speaker was rated second for employability, and her AAVE speech style affected her employability.

Although non-standard accents and accented English speakers are judged less appropriate for high-status jobs and more suitable for low-status jobs, A. C. Cargile (2000)'s study was contrary to all expectations. He investigated 192 undergraduate university students' reactions and attitudes to standard and non-standard speakers of English. He adopted MGT and asked several Chinese speakers to read aloud using standard American English accent and Chinese accented English accent. Listeners were asked to report the speaker's background. Listeners reported that the guises who read in standard American accent were Anglo American, and the Chinese guises were from an Asian nation. In terms

of employment interviews, Cargile introduced four new jobs; these jobs are low-status jobs such as 'courier' and 'human resources associate', and two high-status jobs such as 'information systems trainee' and 'assistant brand manager'. Listeners were asked to rate speakers on a scale from 1 to 7 (1= low status and low prestige job, 7= high status and high prestige job). Results show that standard American speakers and Chinese accented English speakers enjoyed the same consideration for most high and low-status jobs. However, one difference has emerged that Chinese-accented speakers were rated significantly less suitable for a 'human resources associate' job.

In the section above, I tried to shed light on studies that focused on the perceived accented and comprehensibility of the speakers' speech styles that could affect the speaker's employability. In the next section, I will look at how the listeners' perception of a speaker's language variety, style or accent may lead to the identification of a speaker.

3.4 Language Variety Identification

The questionnaire starts with a nationality identification question. One of the questions used in the experiment of this thesis is to identify the speaker's nationality (where is the speaker from?). This section of the research instrument aims to determine whether the listeners could correctly identify the speaker's nationality when reading in Arabic and English. Listeners in the identification task relied on both linguistic phonetic differences and their own life experiences of exposure to the selected varieties (Kerswill & Williams, 2002).

A large number of previous attitude studies adopting the MGT have not asked listeners to identify the regional area or the nationality of the speakers (Garrett et al., 2003, p. 58; McKenzie, 2006, p. 110). It has been recommended by Preston and Krezschmar (1999) to include a question regarding accent identification in language attitude research, as misidentification of accent varieties makes the data more difficult to interpret. Accordingly, recent calls have been raised to include dialect identification in language attitude studies (McKenzie, 2006). In the current study, variety identification is formed to investigate, first, the responses hopefully to provide information with reference to how correctly Arab listeners are able to identify the varieties under study in English and Arabic languages in different styles. Secondly, the study attempts to quantify the speakers' speech evaluation with less exposure to Arabic varieties. Thirdly, a listener may wrongly identify a speaker's nationality. Based on a pattern of misidentification, this may provide an evaluation concerning what the listeners think about where the speaker is from. For example, a listener might identify the Lebanese speaker as Syrian and base their evaluation upon this

misidentification. Listeners who are unable to correctly identify a particular speech variety are unable to identify a stimulus speech or a particular language variety or a dialect (Lindemann, 2003). This study will determine whether correct or incorrect identification of a variety affects the speakers' ratings on different semantic features and comprehensibility and accentedness (see results of chapter 6).

In reviewing previous research on socio-phonetic variation in speech perception, Drager (2010) demonstrated a connection between social information and variation in perception. Speech production is perceived differently based on familiarity with dialects, and listeners evaluate speakers based only on their speech. Moreover, the amount of exposure to a variety or other varieties could affect the ability of listeners to identify a speaker's variety of origin or nationality based on short clips of speech, and listeners attribute social characteristics to the speaker (Drager, 2010; Kang et al., 2016; van Gelder, 2019).

Listeners sometimes rely on phonetic and phonological signals and/or lexical items during perception to identify the speaker's regional area and provide judgment about the speaker. Another vital factor in the perception task that affects identifying the speaker's nationality is exposure to other language varieties and dialects (Derwing & Munro, 1997). Further research focused on listeners' ability to identify the place of origin of speakers in a range of countries (Derwing & Munro, 1997; El-Dash & Tucker, 1975; Herbolich, 1979; Lindemann, 2003; McKenzie, 2008, 2015; Van Bezooijen & Gooskens, 1999; Watson & Clark, 2015). These studies show listeners were asked to listen to speech stimuli and identify speakers' places of origin or ethnicity and/or given varieties. McKenzie (2008) states that strongly accented speakers are easier to identify than moderately accented speakers.

Language identification studies investigate listeners if they can identify the geographical origin of the speaker or the spoken language variety. Derwing and Munro (1997), in a language identification task, asked listeners to identify a speaker's first language and provide information on their familiarity with the four accents used. A forced-choice task of the four language names was provided. Findings revealed that the Cantonese language was the easiest to identify, followed by Spanish, Polish, and Japanese. Listeners reported familiarity with several accents, leading to success at language identification. Ladegaard (1998) asked Danish secondary school and university students in Denmark whether they could identify a speaker's accent, which included RP accent, Scottish accent, Cockney accent, Australian accent, and Standard American accent. Results show that the American speaker was the most successfully identified (likely because of American movies and

popular culture dominating the Danish media). The second speaker correctly identified was the RP speaker, whereas the rest of the accents were the most difficult to identify.

McKenzie (2015) has investigated listeners' perceptions of linguistic diversity, by assessing how accurately 194 UK-born, native English-speaking students can identify a speaker's place of origin, when considering six forms of L1 and L2 English. Six female speakers of English provided six samples of spontaneous English speech. Each sample was validated as representing a form of English. The six speech samples speakers were Scottish, British, Indian, Japanese, Chinese, and Thai. The participants listened to each of the six speech varieties and were asked to write responses about nationality or where the speaker comes from. Results show that UK-born students could most accurately identify British and Scottish speakers and correctly placed speakers' origins. In terms of accented-English speakers, a relatively high accurately identified non-native speech was that of an Indian speaker. Listeners reported that they had had prior exposure to Indian people in Indian restaurants in the UK or through call center operators placed in India. The UK-born students felt that they were unable to correctly and accurately classify the provenance of the Indian speaker because it is relatively similar to Pakistani, Bangladeshi or Sri Lankan accents. The task of identifying Japanese, Chinese and Thai accents was problematic for UK-born students. Listeners could not accurately and correctly identify their accents and perceived them to be from East Asian countries. However, in another study, (Carlson & McHenry, 2006) asked 89 undergraduate students representing different ethnicity listeners in the USA to identify the ethnicity of an African American speaker, an Asian speaker and a Spanish speaker. Results show that 99% of the students identified the speaker's ethnicity correctly.

Another study by Herbolich (1979) asked Egyptian listeners of various ages to identify four Arabic varieties, including Egyptian, Syrian, Saudi, and Libyan, in their native guise and Egyptian-guise. Overall, results show that Egyptian listeners successfully identified the Egyptian speakers but had difficulty and failed to identify non-Egyptian speakers' nationalities in either guise. Herbolich's study corroborates the findings of (El-Dash & Tucker, 1975), that the Egyptian colloquial variety was the easiest to be identified among other varieties.

3.5 Chapter Summary

This chapter has looked at existing research in sociolinguistics which mainly focused on listeners' attitudes towards native speakers of L1 and/or learners of L1 or a mix of L1 and L2 speakers, who either live in English-speaking countries or non-English speaking

countries, in terms of accentedness, comprehensibility, language identification and job employment. Most research on comprehensibility and accentedness perception employs listeners of the target language to judge or evaluate speakers of the target language (L1), and learners of the L1 variety (Derwing & Munro, 1997; Gnevsheva, 2015; Hayes-Harb & Watzinger-Tharp, 2012; Lindemann, 2003; Munro & Derwing, 1995a). Findings show that listeners rate non-native speakers of L1 as having accented speech, but they are considered to be comprehensible, and it seems that being accented does not impede comprehensibility or intelligibility (Derwing & Munro, 2009; Kennedy & Trofimovich, 2008). However, there is a dearth of research that deals with the sociolinguistic studies of Arabic language varieties and speakers of different Arabic varieties on comprehensibility and accentedness. The studies conducted in Arabic were minimal, as they tended to focus on one variety, undertaken in one country, and did not consider social and demographic factors. Also, we know little about how social factors could influence the ratings of speakers. Therefore, this work addresses this gap by employing speakers representing some Arabic varieties. The next chapter presents a detailed account of the methods used to collect data and how they are analyzed.

Chapter 4: Methodology

This chapter describes the methodology used in this thesis, particularly the direct approach (study 1) and the indirect approach (study 2), which investigated an in-depth study of Jordanian participants' and Arab listeners' attitudes towards different varieties of Arabic. I provide a detailed description of the research design and the data collection procedure, including a discussion of the varieties selected for evaluation.

As mentioned in the introduction, this thesis structured around two studies: study 1 includes attitudes with labels only, study 2 looks at attitudes based upon audio-only samples. This thesis is an attitudinal study that focuses on participants (first study) and listeners' attitudes (second study) towards varieties of Arabic and Arabic-accented English speech.

Participants of study 1 were Jordanians living in Jordan and elsewhere, of different ages, gender, educational levels, and regions. They were approached through several media outlets, such as Facebook, WhatsApp, emails, friends, and family members, inviting them to participate in the survey. During the survey, participants were asked questions about their demographic information, attitudes towards the MSA variety and their spoken dialects in terms of language variety, prestige, preferences and the heritage variety of the Jordanian society. Participants were also asked to present their opinions towards 20 statements judgments on 7-point Likert scales. Finally, they were asked questions about their attitudes towards the MSA variety and other Arabic varieties regarding status and solidarity on a 7-point slider scale.

Listeners of study 2 were Arabs of different ages, gender, educational levels living in Arab countries and elsewhere. They were asked to listen to a number of Arab speakers talking in Arabic and English, using two different reading and speaking styles. First, they were asked to identify the speaker's nationality (forced options provided); after that, they were asked to rate each speaker's speech on a number of status and solidarity dimensions and comprehensibility and accentedness. Finally, they were asked to provide demographic and English language proficiency information.

The Likert scale in attitude research is the most popular scaling technique; this evaluative tool is based on asking participants to rate whether they agree or disagree with several attitude statements under investigation (Garrett et al., 2003; Redinger, 2010).

4.1 Study 1 (accent labels)

The aim of study 1 is evaluative and aims to examine and analyze Jordanian participants' attitudes from various dialectal backgrounds towards the MSA and other spoken Arabic varieties in terms of status and solidarity. Participants were asked to rate MSA along with their varieties in terms of prestige, preference, and dialect origin of the Jordanian society. It also examined participants' attitudes each language variety on 6 different attributes. The variation in attributes are summarized along two dimensions, solidarity and status (Watson & Clark, 2015; Zahn & Hopper, 1985). As noted above, status indexes charactertisics to do with power, such as intelligence, wealth and education while solidarity indexes items to do with social attractiveness, such as friendliness, pleasantness and kindness (McKenzie, 2006; Ryan et al., 1977). There has been a debate among researchers or scholars about the status of Arabic varieties, especially in Jordan, as discussed in chapter two. While the topic of language attitudes has been researched in the Jordanian context (Al-Raba'a, 2016; Hussein & El-Ali, 1989; Sawaie, 1987; Suleiman, 1985), empirical studies focusing on MSA, Jordan's three main dialects (including, Urban, Rural, and Bedouin) and other Arabic varieties, to the knowledge of the author, are lacking.

Research questions of Study 1:

Study 1 aimed to answer the following questions.

1. What attitudes do Jordanian people hold towards MSA variety, Urban, Rural and Bedouin Jordanian spoken dialects in terms of prestige, preference, and dialect heritage?

2. What social variables (if any) seem to be significant in predicting Jordanians' attitudes towards Standard Arabic and Jordanian Colloquial varieties?

3. What language attitudes do Jordanian people hold towards Arabic varieties in terms of status and solidarity?

4.1.1 Data collection

The population for study 1 is restricted to first-language speakers of Jordanian Arabic. The primary reason for choosing Jordanian Arabic participants is that the first section of the survey investigates Jordan's three main dialects where only Jordanians know each dialect's features and whose speakers speak each dialect.

The study deals with participants of different genders, dialects and socioeconomic classes. The total number of participants who completed the whole survey as previously mentioned in chapter 1 is 667. The minimum age of participants is 18 and above (see table 10 and 11 below). Most of the participants who participated in the survey come from Irbid in the north of Jordan, Amman, the capital of Jordan, and Zarqa east of Amman. All the participants were approached and reached through friends and social media networks (Milroy & Milroy, 1978). 385 men and 546 women took part in the online survey.

4.1.2 Research design

The present study utilizes the direct approach to investigate language attitudes towards MSA, three spoken Jordanian varieties (namely, urban, rural, and Bedouin) and selected Arabic varieties (namely, Palestinian, Saudi, Jeddah dialect, Kuwaiti, UAE, Iraqi, Egyptian, Sa'adi dialect, Lebanese, Syrian, Yemeni, Moroccan, and Sudanese). A number of studies related to Arabic varieties investigated people's attitudes towards Standard and non-standard Arabic varieties, while other studies extended their focus to include a small number of varieties from other countries (Al-Haq, 1998; Al-Kahtany, 1997; Herbolich, 1979). These studies sparked my interest in enlarging and increasing the number of Arabic varieties to include another 13 Arabic varieties to investigate Jordanian participants' attitudes towards them in terms of status and solidarity. I have used the selected traits, such as understandable, powerful and wealthy (status), and social intimacy, pleasant, and rough (solidarity), based on previous Arabic studies (Al-Raba'a, 2016; El-Dash & Tucker, 1975; Eltouhamy, 2016; Hachimi, 2015; Herbolich, 1979; Hussein & El-Ali, 1989), so as to examine the attitudes of Jordanian participants towards the selected varieties. The reason of using an online survey is the survey itself targeted all Jordanian people regardless of educational level, dialect variety, region and place of residence. It also aimed to collect as many responses where possible not only from Jordanian people in Jordan but elsewhere. Furthermore, participants can complete the survey in their free time. Also, it was impossible to go back to Jordan for an extended period to collect data, and travel through Jordan and elsewhere. The research experiment was conducted online and presented in Arabic. Qualtrics was used to collect the survey responses and participants were contacted on social network platforms (e.g., Facebook Messenger and WhatsApp), and by personal emails. The survey can be found in Appendix A.

4.1.3 Ethical issues

The ethics application, which provides detailed information on the content of the questionnaire, was approved by the University of Canterbury (reference number HEC2017/LR-PS). After receiving final approval, I distributed the online questionnaire using the 'snowball method' (Milroy & Milroy, 1978; Milroy & Gordon, 2003). Participants were asked to read the first two pages of the questionnaire, which contains the purpose of the project and the consent form that clarified their rights and roles as participants, to tick agree if they want to take part in the online questionnaire, or disagree if they do not want to. After that, the participants are free to continue or discontinue. The name of participants was anonymous and was not required at any level except emails if they wished to receive results of the study or participate in future studies.

The participants' responses and social data will be used only for academic research purposes. Only the main researcher and the supervisors are allowed to access the data. The participants' responses were treated confidentially, and no information by any means that could identify them will be released. Data will be stored for 10 years then destroyed. To encourage participants to take part of the survey and to minimise the risk, the participation was voluntary, and the participants had the right to withdraw prior to submitting the survey as names are anonymous.

4.1.4 Questionnaire data

In the present research, I employed the closed questionnaire methodology, restricting the participants to structured questions of certain formats such as multiple choice and ranking techniques (Al-Kahtany, 1997; Sawaie, 1994).

The questionnaire is popular in attitude research due to its accessibility to collect responses from large responses, and its ability to provide data that are analysed using statistical tools (Gallois et al., 2012). The questionnaire has three sections, and completion of the survey took 20 minutes on average. First of all, participants provided details regarding personal information such as age, gender, level of education, own dialect, region, and parents' own dialects. At the end of this section, participants were asked to rate the MSA and the three Jordanian varieties in terms of prestige on the scale of one to seven, where one the least and seven the most prestigious. Secondly, participants were asked which of the MSA and three Jordanian varieties do you prefer? Question three consisted of a question as to which of MSA and the three spoken Jordanian varieties was the authentic variety of Jordanian society. The second section of the questionnaire contained twenty judgment

statements; these statements were designed to elicit directly participants' attitudes towards their dialects employing a seven-point Likert scale from 1 (strongly agree) to 7 (strongly disagree), as shown:

1. Strongly agree 2. agree 3. fairly agree 4. not necessarily 5. fairly disagree

6. disagree 7. strongly disagree

The third section included semantic differential scales where participants were asked to reflect their attitudes and rate MSA, Jordanian spoken dialects, and some other varieties, using 7-point semantic differential scales of status and solidarity (see appendix A).

4.1.5 Demographic information

Participants were asked to select from top-down options about their age and gender. They were also asked to indicate their educational level from options given to them. They were also requested to provide their dialect and their parents' dialect; they were provided with three options to select from. Participants were asked to indicate which region they originally belonged to and where they currently reside. Participants were asked whether they wanted to provide their emails at the end of the survey if they wanted to receive the study's results.

4.1.6 Participants

Milroy and Gordon (2003) propose the use of a snowball method which is dependent on friends and participants' social network. This method has been widely used in sociolinguistics, and many linguists and sociolinguists adopt it in their studies. It has certainly demonstrated its usefulness in conducting research samples. This method also proved its usefulness in Arabic studies (Al-Raba'a, 2016; Alqahtani, 2015). In the present project, the snowball method helped me get access to potential participants in Jordan and elsewhere. Also, the distribution of the survey online using various social media platforms helped me obtain many participants from different regions and countries. The participants who filled out the questionnaire were very helpful, and some shared and distributed the questionnaire on their social networks to their friends. Many participants offered their willingness to take part in any future work. This study's sample size was influenced by the availability and number of participants of each region and area. As for the region, there are more participants in Irbid, Amman and Zarqa than in other regions, as shown in table 4.2 below. We will not explore the region's effect in this chapter because the ratio is not balanced. Also, not all participants who agreed to participate completed the whole survey;

some completed section one and gave up, while others continued to section two and left. Others continued to some parts of section three and quit, and the last group completed the whole survey to the end. Responses were automatically sent to me via Qualtrics.

Table 4.1: Structure of the Jordanian participants by Sex

No.	Gender	No. of participants
1	Male	385
2	Female	546
3	Total	931

Table 4.2: Structure of the Jordanian participants by Region

No	Region	No. of participants
1	Ajloun	35
2	Amman	293
3	Aqaba	5
4	Balqa	26
5	Irbid	374
6	Jerash	24
7	Kerak	13
8	Ma.an	13
9	Madaba	7
10	Mafraq	24
11	Tafila	2
12	Zarqa	115

Table 4.3: Structure of the Jordanian participants by age group.

No	Age group	No. of participants
1	18-24	409
2	25-30	202
3	31-35	95
4	36-40	107
5	41-45	68
6	46+	50

4.1.7 Procedures

The participants were demographically diverse and distributed across all regions of Jordan. All participants were over 18 years of age, of different dialects, gender and educational levels. The procedure attempted to elicit data from a large number of participants. Participants were asked a variety of questions about their dialects and dialect use. They were also asked to rate 17 accents of Arabic, including MSA, Jordan colloquial spoken dialects and some accents associated with other Arab countries, presented conceptually in terms of status and solidarity. Participants presented their judgments electronically using a 7-point Likert scale.

4.1.8 Data analysis and coding

I provide data analysis for each section in tables and figures. After collecting the questionnaire responses, the data was imported from the Qualtrics software and saved in a spreadsheet, and then imported into R statistical package (R Core, Team, 2018 version 3.5.1). The main statistical technique used in this study was mixed effect models that allow the researcher to consider all factors that are likely contribute to understanding the structure of the data.

4.1.9 Section Summary

This section has described the research approach, design and procedures employed in language attitude studies. The investigation of attitudes for this study is characterised by the use of direct approach in the form of an online survey. The direct approach research conducted in Jordan was carried out online to elucidate attitudinal information, and has focused only on Jordanian participants. The survey also aims to collect a large number of participants. The online questionnaire does not require the researcher's presence; it emerges as a useful tool for attitudinal research. The online questionnaire does not include open-ended questions as participants do not prefer to spend time and effort writing lengthy answers (Redinger, 2010). Based on the results of the study 1, study 2 aimed to record selected speakers representing some Arabic varieties and rate them on different aspects. The next section, I will present key information about study 2 as well as results of the pilot study.

4.2 Study 2 conducted through (VGT study)

The second part of the research does not investigate listeners' attitudes towards speakers' productions in Arabic and Arabic-accented English, but instead examines the effect of

speakers' speeches on listeners' attitudes towards comprehensibility, accentedness, language variety identification, in terms of status and solidarity. Language perception has been studied in Arab contexts (Al-Kahtany, 1997; Albirini, 2016; El-Dash & Tucker, 1975; Herbolich, 1979). This study focuses on Arabic varieties (Egyptian, Jordanian of three main dialects, Lebanese, Iraqi and Moroccan) in reading and speaking styles, as well as Arabic-accented English reading and speaking styles.

This study seeks to answer the next questions:

4.2.1 Research questions

The current study aimed to investigate the following research questions:

4. To what extent can listeners correctly identify Arabic varieties being spoken when listening to audio clips:

    a. in Arabic and

    b. in English

5. What attitudes do Arab listeners have towards:

    a. reading and speaking speech styles of both standard and non-standard Arabic varieties?

    b. reading and speaking styles when produced by Arab speakers?

6. How accented and comprehensible are speakers of Arabic varieties whether speaking:

    a. in Arabic and

    b. in English.

7. How does a listener's attitude affect their accentedness and comprehensibility ratings of speakers?

4.2.2 Research design for speakers

A story was designed to include several short stories for each speaker, which differed in the contents; each short story included a range of phonological features that distinguish each language variety, making it easier for listeners to tell where each variety is from. Recordings were made of lay Arab people coming from Jordan, Egypt, Iraq, Lebanon and Morocco of different ages, regions, dialects, and educational backgrounds. We recorded two speakers

from each variety, and a subset was chosen for inclusion in the online survey, based on auditory and phonological features of the audio clips. The recordings were not carried out by the first author but by research assistants. They found some speakers to record them and some speakers I Provided them with their phone numbers. Each speaker was requested to read each short story and retell it using his dialect or variety, in order to produce the phonological features known to be salient for the listeners. However, it was anticipated that when speakers read something in standard Arabic or English it could be problematic, but we thought this might allow listeners to think and listen carefully in order to identify the speaker's nationality during standard speech, rather than in the context of spontaneous speech.

The listeners of this study were males with Arabic as their native language. The educational level of the speakers ranged from a Bachelor degree to a doctoral degree. Sociolinguistic studies employ several techniques to determine language attitudes. Agheyisi and Fishman (1970) have described methods used in language attitudes: direct and indirect approaches (see section 2.3.2 and 2.3.3 chapter 2 above for more information about them). The direct methods elicit responses from subjects by directly asking questions through a questionnaire, interviews, and observation, while the indirect method elicits information from subjects or speakers without being told the purpose of the investigation, which later required listeners to listen to and evaluate speakers' accents. Some scholars combine the two methods in an experimental design known as the 'matched-guise technique' (Sawaie, 1994), developed by Wallace Lambert and his associates (Lambert et al., 1960). The match-guise technique is the most frequently employed method in measuring language attitude studies dealing with measuring evaluative reactions of speakers to particular languages, language varieties, dialects, and/or speech varieties (Agheyisi & Fishman, 1970; Sawaie, 1994). In matched guise technique experiments, listeners' responses are often collected using semantic-differential scales (Osgood et al., 1957), which requires placing opposite feature traits at either end of a scale. These scales could be of an uneven number of 3-point, 5-point or 7-point semantic differentials "to provide informants with a neutral position on the scale" (Agheyisi & Fishman, 1970; McKenzie, 2006, p. 59; Osgood et al., 1957; Sawaie, 1994). For instance, in his study, Ball (1983) used 7-point bipolar scales to elicit attitudes towards English accents in Australia. Also, Lambert et al. (1960) played audio-recordings to listeners to evaluate each speaker they heard across a seven-point bipolar adjective scale. McKenzie (2006) conducted another study that sought Japanese listeners' attitudes towards varieties of English and Japanese-accented English, applying bipolar adjectives across seven-point

semantic differential scales. In this experiment, natural and read speech samples were collected from each speaker. Speakers were asked to read short passages in Arabic and English. Each speaker was given four short passages, two in Arabic and two in English. While each participant was reading an Arabic passage in standard Arabic style and an English passage in English style, he was told to retell what he has understood from each passage in his normal dialect speech. Each short passage was maximum 90 seconds long while reading and ranged between 45 to 70 second while retelling. Short passages were taken from different resources, see the link in section 4.2.4 below. After the completion of reading and recording participants' speeches, they were asked to fill in a demographic questionnaire. The research design employed in this study is verbal guise technique (see section 4.5.1).

4.2.3 Varieties of Arabic selected for this study

As previously mentioned, one of the main objectives of the study is to examine the effect of listeners' attitudes towards varieties of Arabic speech and Arabic-accented English speech. The present study aims to investigate differences in attitudes towards:

(a) standard versus non-standard varieties of Arabic speech

(b) English read versus English retold by Arab speakers

So, to achieve this, 7 Arabic varieties were selected and recorded, and afterwards utilised for evaluation by listeners. Although it would be interesting to select a large number of Arab speech varieties for evaluation, for obtaining very authentic and reliable results, listener fatigue might affect the validity of the evaluation if more speech varieties were employed. A decision was made to select some speakers that represent a sub-section of the Arab world. The selected varieties do not represent the entire Arab world, but each chosen variety resembles other varieties phonologically and lexically. For example, the Moroccan variety is part of the Maghrebi Arabic variety (including Morocco, Algeria, and Tunis). Jordan Arabic (Urban and Rural) variety to a certain degree resembles Palestine Arabic variety, as many people of Jordanian-Palestinian origins have lived in Jordan since 1930s onwards. The Jordanian Bedouin dialect resembles that of Saudi Arabi, particularly those communities or tribes near the border and that of other Gulf States. The Iraqi Arabic variety resembles the Kuwaiti Arabic variety and some Saudi dialects; the Lebanese Arabic variety resembles the Syrian Arabic variety, and finally, the Egyptian Arabic variety, which has unique features

that do not accurately resemble any neighbouring varieties, but many Sudanese people work in Egypt, and many Egyptian people work in Libya; see map 1 below.

Map 1: The Arab World. http://www.economist.com/node/21015995

Furthermore, Jordan colloquial dialects were also selected as stimulus speech for the present study. These are: the urban dialect, the rural dialect and the Bedouin dialect, representing prestige and non-prestige dialects in Jordan, in that the Jordan Urban dialect is considered prestigious, and the Jordan Rural and Bedouin dialects are, overall, considered stigmatized or non-prestigious (Abd-el-Jawad, 1986; Al-Raba'a, 2016). After completing the attitude study, which focuses only on Jordanian people's attitudes towards the three main spoken dialects in Jordan in terms of dialect prestige, preference, and the dialect origin of Jordan, as well as attitudes towards 17 Arabic varieties and dialects using accent labels, it was decided through regular supervision meetings to include in the main study Jordan speakers' accent from three different dialects and employing only Jordan listeners and compare it with the attitude study. Later, and to make the thesis more comprehensive, we decided to include other Arabic varieties that were rated high and low in the attitude study. Also, we decided to record the speakers in English to examine if speakers' L1 colloquial varieties influence their English production. Listeners can identify the speakers when they read and retell the English text, and this can also help indicate how listener ratings of the speakers are affected by language and style. Moroccan Arabic variety was recorded because, historically, it is believed to be a mixture of different languages such as Arabic, Berber, French, and Spanish. According to Hachimi (2015), it was perceived to be unintelligible to only its native

speakers. Egyptian Arabic was recorded as perceived as the most intelligible and understandable variety amongst Arab speakers (Hachimi, 2015; Herbolich, 1979). Iraqi Arabic was also recorded as it is perceived as rough, masculine, and a serious variety (Hachimi, 2015). Finally, Lebanese Arabic was recorded because it is widely thought and considered the most prestigious spoken Arabic variety of all Arabic varieties spoken by males and females, and is perceived as classy, ranked higher on status dimension as intellectual, and high on social attractiveness as modern and romantic, but, in contrast, can be perceived as being sexualized, spoiled, and effeminate (Hachimi, 2015). Thus, it seemed suitable to select varieties that attract strongly different responses among native Arabic speakers. In short, these selected varieties together demonstrate examples of the least and most favorably evaluated speech varieties among Arab listeners. To make certain the speakers' privacy and confidentiality and meet research ethics, a consent form (see appendix A) was attached and given to selected speakers prior to recording them. The consent form explained the purpose of the study; at the end of the form, I sought their permission to record them and use their voices as stimuli.

4.2.4 The recording task for speakers

In this task, 14 male speakers represented five Arabic-speaking countries were recorded as stimuli. Speakers were aged between 20 and 43 years of age at the time of recordings. The speakers' nationalities were two Egyptian Arabic speakers, two Iraqi Arabic speakers, two Lebanese Arabic speakers, two Moroccan Arabic speakers, and six Jordanian Arabic speakers (including 2 Urban speakers, 2 Rural speakers, and 2 Bedouin speakers). The speakers at the time of the recordings were located in Jordan and the United Arab Emirates. I found them by putting an advertisement on my Facebook account page and disseminating the questionnaire invitation through friends. I have chosen only male speakers so as to not introduce an extra variable (set) into the analysis. Also as Arab societies can be conservative, so at first it was difficult for females to accept to be recorded, and secondly female speakers, particularly those of the Jordan Rural and Bedouin varieties might suppress their stigmatised features in the Arabic retelling and, alternatively, produce prestigious Jordan Urban features which will not serve my study (Abd-el-Jawad, 1986).

The speakers represented different age groups and educational levels; some are studying towards Bachelor degree, some are doctoral candidates while some are working. The ages of speakers differ, as can be seen in table 4.4 below. The recordings took place in one session for each speaker. Some speakers from the same nationality or a dialect, where

possible, were recorded together, which means when the first speaker is finished recording, the next one starts, for example, in the case of the Lebanese speakers.

The speakers were provided with written short passages to collect data. Each speaker received four short passages; two were written in standard Arabic orthography, supplemented with diacritics markings where necessary, and two in Standard English. Each speaker's passages were different from each other, and no single passage was identical. The reason to not have identical passages for all the speakers whether in Arabic or English is to avoid repetition, preventing listeners from becoming familiar with the text when read and retold by other speakers in different languages and styles. Passages were taken from these websites: http://mawdoo3.com for Arabic short passages, and http://www.english-for-students.com/Moral-Stories.html for English passages.

The recording included two languages and four styles. Speakers were asked to read each short text in the standard language (i.e. formal standard Arabic and reading English style) and then re-tell the passage's contents the way they would use language in everyday conversations (Al-Deaibes, 2016). The languages are Arabic and English, and the styles are read Arabic, speaking Arabic, read English and speaking English. The duration of each recording session differed according to the speakers. Some speakers spent 20 minutes; others took 30 minutes. There was a short break between each recording to relax and get prepared for the next recording. Some of the speakers made some mistakes while being recorded and had to repeat the task. Once the recording was done, each file was sent to me by email, and I had to check the quality of the recordings, voices, background noise and the content; if for any reason the recordings were not useable, speakers were asked to repeat the task (e.g. in some cases there was too much background noise etc.). The speakers were not informed of the study's specific purpose in the hope to make the production more natural.

The recording process began initially between June 2018 and October 2018. Initially, the instrument used for recording speakers was a smartphone. However, after recording Jordanian speakers, Egyptian speakers and an Iraqi speaker, it became clear that the quality of the voice was not good enough to be used in the listening perception task because the microphone of the phone was not good enough. Also, there was lots of background noise, which would affect the quality of the listening task, resulting in poor outcomes. To overcome this issue, I decided to purchase a high-quality recording device and send it to the research assistant in Jordan. Unfortunately, the speakers who had already been recorded refused to be re-recorded. Therefore, I started looking for speakers of the selected Arabic varieties again by posting on social media and through a network of friends. This took us a long time

because speakers were reluctant to participate and did not want to be recorded. Finally, and after a long journey, we found willing speakers and started recording them. Unlike in the initial phase of recording (using an iPhone), we explained to the speakers the nature of the research and why we were recording them. We also told them that they have the right to withdraw their recordings at any time. To proceed in recordings, speakers had to sign a consent form and fill in a demographic and English proficiency questionnaire. The research assistant was travelling between different cities in Jordan to record the speakers. Some speakers were recorded at their houses. Two speakers were recorded at the University of Jordan by my friend, an assistant professor in the department of English language and literature, at his office.

All the recordings were collected using a Zoom H5 digital recorder. It has interchangeable input capsules with microphones. The H5 records in WAV format up to 24-bit/96 kHz as well as MP3. It records up to 15 hours on two AA batteries. During recordings, the external microphone was not used as the device is compelling in capturing the voice. This handheld digital recorder is a high-tech professional and has a USB connector to move all the recordings to an external device or hard drive.

As soon as the research assistant finished recording a speaker, he sent the recordings directly to me to check the quality of the recordings and make sure everything is going well. Most recordings had to be repeated at least once, or were repeated for several reasons, e.g. some speakers were either talking too fast or slow, and the voice volume was either too low or high. Some speakers in the retold texts were very much identical to the read texts in Arabic and English, and some speakers did not prepare themselves in advance. However, all speakers were given the material beforehand and had at least one week to prepare and practice before being recorded. This entails rescheduling other recording meetings with the speakers in their free time, which took over a year to complete recordings. The speech samples selected for use in the language attitudes survey were approximately similar in length, ranging from 50 seconds to 1 minute 20 seconds. The retold texts ranged from 40 seconds to 1 minute. Some minor differences in the length of recordings would not affect the validity of the recorded data (McKenzie, 2006). The speakers were carefully selected; none of them had any problem in articulation, and their English level was taken into consideration.

4.2.5 Questionnaire for speakers

The questionnaire was designed to obtain information from speakers. First, they were asked to read instructions and information about the project and what they were required to do. If they had any enquiry, they were advised to email the researcher or the supervisor or the University of Canterbury Human Ethics Committee. After that, they could choose to tick the options which indicated they had agreed to participate and have their voices used as stimuli. After that, they were asked to fill out a demographic information sheet that included the speaker's age, level of education, the country they are from, and current place of residency. Speakers were then asked what language(s) they spoke or understood beside Arabic, and what medium of instruction was at their university (forced options given). Then the speakers needed to indicate if they lived in or had been educated in an English speaking country and for how long. Finally, speakers were asked to complete English proficiency information and write down their email if they wanted a summary of results (see Appendix B).

4.2.6 Background of selected speakers

The project employs the indirect approach, which comes in the form of speech recording and listening tasks. In the speaking task, the project utilized the verbal-guise technique. First of all, there is a reading task in which speakers representing the three spoken dialects of Jordanian Arabic, namely, urban, rural and Bedouin, and speakers from other four Arabic language varieties, e.g., Egyptian, Iraqi, Lebanese, and Moroccan, will be cordially asked to read short texts in both Arabic and English, then retell them in their own dialect or variety. The total number of speaker participants is 14: two from each dialect and language variety, with all speakers living in Jordan during the course of recording.

Table 4.4: Demographic information of speakers

No	Speaker	Nationality	Age	Education	Additional languages
1	Saeed	Egypt	35+	Masters	English
2	Mohammed	Egypt	35+	Bachelor	English
3	Iraq 1	Iraq	31-35	Bachelor	English
4	Iraq 2	Iraq	25-30	Bachelor	English

5	Ahmad 1	Lebanon	18-24	Bachelor	English + little French
6	Ahmad 2	Lebanon	18-24	Bachelor	English + little French
7	Mohammed	Morocco	25-30	Masters	Berber, French and English
8	Mousa	Morocco	25-30	Masters	Berber, French and English
9	Omar	Jor Bedouin	35+	Masters	English
10	Salim	Jor Bedouin	31-35	Masters	English
11	Ahmad	Jor Rural	35+	Masters	English
12	Muaz	Jor Rural	35+	Masters	English
13	Majd	Jor Urban	18-24	Bachelor	English
14	Mohammed	Jor Urban	18-24	Bachelor	English

Table 4.4 shows that there were 14 speakers participating in the survey. They range from 18 and 35+ years of age. Four speakers were studying towards a Bachelor degree and the rest had completed at least a Bachelors. Each speaker received four short texts; two in Arabic and two in English. The study stimuli consist of short stories that are grammatically and semantically well-formed both in Arabic and English. The speakers are chosen based on their English level, from medium to high, and their age is between 18 and 35+. First, speakers were asked to be recorded while reading each text in Arabic and English. Initially, they read the first Arabic text in standard Arabic; after they finished, they were asked to retell the same text in their spoken dialect. Each text was recorded twice; first in standard Arabic and English, and second, retelling what they understood in their own dialect. Therefore, each speaker was recorded 8 times. The speech samples selected are approximately similar in length, ranging from 50 seconds to 1 minute 20 seconds, and the retold texts ranging from 40 seconds to 1 minute. Some minor differences in the length of recordings would not affect the validity of the recorded data (McKenzie, 2006). The speakers were carefully selected, none of them had any problem in articulation, and their English level was taken into consideration.

4.2.7 Data collection (listening rating task)

The audio stimuli were randomly presented online (see table 4.5), where a link was sent to listeners across Arab countries and elsewhere. The link invited listeners to listen to each speaker and then be asked, 'where is this speaker from?' and offered listeners a fixed choice of options to select from (Leach et al., 2016). The survey also collected information about each listener, including gender, age, education, where they are from, and an English proficiency section. Our listeners were allowed to listen to each speaker as many times as they want. A total of 839 listeners took part in the survey, but 449 listeners completed the whole survey (see table 4.6 below). The total length of auditory input to the listeners was between 10 and 15 seconds using Audacity software.[6] Each experiment's overall time was about 15 minutes, including the time to complete the demographic background and English proficiency information. The issue of fatigue effects was considered and reduced by randomising the stimuli.

The rating or listening task is divided into two tasks (the pilot study task 4.4 and the main task chapter 6), which used the same methodology and were carried out online. The pilot study task is smaller in terms of both the number of listeners and the number of questions.

The main rating task in study 2 was also administered through an online survey hosted by Qualtrics. The feedback from the pilot study task was taken into consideration when the main rating task was designed. For example, there was a question in the pilot study to describe in three adjective words each speaker's accent in terms status-solidarity related characteristics. These words were chosen according to the frequent times listeners described each speaker. The main survey in study 2 is also bigger in terms of questions and listener participants. The comments I received from the pilot study were that participants felt the survey was too long, and they requested it be shorter and only have options to select from in the question about accent identification. So in the second listening task, I decided to select one speaker from each language variety and dialect; two languages and two styles for each speaker included 4 short speech samples instead of 8 short speech samples per speaker. The voices or the speech samples of the speakers were then arranged in different random orders, four different audio styles are made to be used in the final experiment, and only one individual speaker would hear one audiotape in order to avoid any potential effects in

[6] Audacity is a free audio, editor, and recorder software that can be used to edit, record, split recordings into tracks and exports files as WAV or MP3 formats.

subsequent evaluations by listeners (Garrett et al. (2003, p. 52). It was also decided to have 7 speakers in each audio; for example, audio 1 has Arabic reading style speakers, tape 2 has Arabic speaking style speakers, tape 3 has reading English style speakers, and tape 4 has speaking English style speakers.

Cargile (2002) states that the amount of time given to listeners to hear each speaker and evaluate them could influence their attitudes. Thus, it was considered to give listeners sufficient time while listening to each stimulus and writing down their evaluations. In the current study, the "time-availability condition" Cargile (2002, p. 184) was applied where each listener can hear and re-play the recordings as many times as they want, which gave them time to identify the nationality of the speaker and to rate them on different semantic features and accentedness and comprehensibility.

The survey is divided into Arabic and English languages, and each language has 2 styles (reading and speaking). A link to the study was posted on a Facebook page, sent to friends and shared on their Facebook pages, emailed to friends, and sent via WhatsApp, Messenger, and other social networks. The survey was randomly and evenly distributed, which means when a listener participant clicks on the link, it takes them to either Arabic reading style, or Arabic speaking style, or English reading style, or English speaking style. After listener participants read the instructions and clicked 'agree' to participate, listeners were asked after listening to each speaker to answer, first, a nationality question, e.g., "where is the speaker from?", with forced options provided to select from. Secondly, they rated each speaker on several semantic-differential scale questions, e.g., "how educated do you think the speaker sounds?", on a 7-point slider bar with 1 is not educated and 7 is educated, and on comprehensibility and accentedness.

It was decided to recruit many Arab listeners who live in Arab countries and elsewhere to ensure maximum reliability when generalising results (Montgomery, 2012). Employing Arab listeners from different Arab countries was to ensure that the sample is representative and avoid rating bias towards a variety or a dialect. The survey was conducted online, and listeners were recruited in a number of ways. One method involved utilising the researcher's social contacts through friends and family members who were asked to participate in the survey and send it to their friends. Another method was posting the survey link on the researcher's Facebook page and asking friends to share it on their pages to attract a high number of listeners; another method involved sharing the survey link to many groups the researcher is participating with; the last method is to send the survey through email correspondence with the researcher's academic contacts in Jordan, Morocco, the United

Arab Emirates, and Saudi Arabia. The choice to recruit online listeners was made for the restriction of time and money, and it was impossible to conduct a long-term study (see McKenzie, 2006, p. 106 and 107). There is a considerable variation between the listeners; a large number of participants (330, see table 4.5 below) are from Jordan as it is the researcher's country.

Tables 4.5 to 4.9 show the distribution of languages and styles used in Study 2, the country of origin of the listeners, age groups, level of education, and Jordanian listeners' distribution in each city in Jordan.

Table 4.5: languages and styles used in the listening section.

Language	Style 1	Style 2
Arabic	Reading Arabic	Speaking Arabic
English	Reading English	Speaking English

Table 4.6: Number of listeners from each country

country	number
Algeria	4
Bahrain	1
Egypt	16
Iraq	7
Jordan	330
Kuwait	3
Lebanon	3
Libya	1
Morocco	18
Other	3
Palestine	17
Saudi Arabia	8
Sudan	2
Syria	13
Tunis	8
Yemen	15
Total	449

Table 4.7: age distributions for listeners

Age groups	18-30	31-40	41-50	51-60	61+
	133	198	94	22	2

Table 4.8: Level of education for listeners

Degree	Bachelors	College	Masters	Other	Ph.D
	1197	15	163	5	95

Table 4.9: Number of listener participants from each city in Jordan

City	Number
Ajloun	10
Amman	115
Aqaba	2
Balqa	7
Irbid	139
Jerash	9
Kerak	5
Ma'an	2
Madaba	3
Mafraq	12
Tafila	0
Zarqa	26

4.3 The analysis technique used in this thesis.

A mixed-effect model is a statistical model which includes both fixed effects (such as independent or social variables and interactions among them), and random effects (such as ResponseId and question). Mixed-effects modelling has been popular in sociolinguistics, allowing the researcher to consider all factors together, leading to a better understanding of the data model (Baayen et al., 2008). In a mixed model, the addition of a random effect to the fixed effects for "ResponseId" characterizes idiosyncratic variation due to individual differences (Winter, 2013, p. 24).

In this study, mixed-effects regression models are fitted using the glmer () functions in the lme4 library (Bates et al., 2014) as an open source platform in the software packages in R as a primary tool for statistical analysis. Each model in the accent label study contains random intercepts for ParticipantID, and some models in the Audio study have random intercepts for ResponseId and question. Fixed effects such as gender, age, education, and dialect were tested and their interactions were also tested. Then the best fit models are included. The most important part of regression analysis is the identification of the best fitting model. This is achieved by removing non-significant variables and interactions. ANOVA test was applied to compare models and the most suitable to use in the analysis. Each step is compared to an analysis of variance (ANOVA). ANOVA produces an AIC

value for each compared model, and the model with a lower AIC value is considered the best model. The "plot (allEffects())" functions in R is used to display figure results.

Mixed-effects modelling, compared to ANOVA, VARBRUL or GoldVarb, is a flexible and powerful statistical tool used for the analysis of grouped data that increasingly gained its popularity by the flexibility they offer in a variety of areas such as science, medicine, engineering, agriculture, biology, and social science (Baayen et al., 2008, p. 391; see Redinger, 2010, p. 113), and in sociolinguistics in recent years (Johnson, 2009). The advantage of mixed effect models allows the researcher to simultaneously consider all factors that potentially contribute to the understanding of the structure of the data (Baayen et al., 2008). The mixed-effects models 'are primarily used to describe relationships between a response variable and some covariates in data grouped according to one or more classification factors' (see Redinger, 2010, p. 113). Another benefit of the mixed-effect model tool is that it allows the investigation of the individual and the group together (Drager & Hay, 2012).

Mixed-effect-models differentiate between fixed effects and random effects that affect the response. Mixed-effects comprise not only standard fixed-effects factors that represent the object of interest in a study and which can be replicable in other studies, but are associated with an entire population and characterised by a small number of different levels such as gender or age (Baayen et al., 2008; Johnson, 2009). Random effects are drawn from a large population, such as speakers in a study (see Johnson, 2009, p. 7). These factors, in random effects, are part of a larger population and are usually not replicable in most cases. Thus, two different studies focusing on the same object of interest can have men and women as the sex factor, but probably not the same informants recruited. In the first part of the attitude chapter, I focused on random effects for participants. In the second section, I focused on random effects for participants and for question. By having a random intercept effect of the participant, which is known to affect the outcome in the study, the degree of having different attitudes towards Jordanian dialects and some Arabic varieties, some participants are generally more likely to have negative or positive attitudes than others, regardless of their sex, age, or other social-related factors included in the effects.

By applying the mixed-effects models to the data, the fixed effects consist of various predictors or independent variables such as sex, age, own dialect, and education. The random-effects, as previously mentioned, are smaller and are taken from a larger population, consisting of individual informants. The random effect of participants or speakers strengthens the model. It is also possible to analyse groups of attitude statements by using

mixed-effects models without losing any individual statements which form the group (Redinger, 2010).

Binomial mixed-effects regression models which evaluate the relationship between a binary dependent variable and independent variables were fit using the *lme4* package in R (Bates, Kliegl, et al., 2015). Significance in the models was reached with the P-values using the lmerTest package. The final decision about significance was determined by comparing different models using ANOVA and summary function in R by providing p-values for fixed effects with the lowest AIC considered the better model. The correct/incorrect responses were used as binary.

4.4 The pilot study

Pilot studies are of chief importance as they provide robust information for the varieties being evaluated and allow us to build a practical semantic-differential scale. Before conducting the full study, the questionnaire was tested in a pilot study, and the results are detailed below. Once a draft questionnaire is completed, it should be tested and sent to a small number of participants before sending it to the target or a large number of participants. Pilot studies are very important for any research project, particularly for large-scale projects (Cohen et al., 2018). The pilot study aims to ascertain the approach is workable and understandable, and investigate if the research instrument functions adequately. The pilot study, which is part of the second study, was undertaken to reveal any potential challenges regarding the questionnaire, testing the research instrument, and data analysis. The pilot aimed to help determine if listeners can identify accent recognition and collect and select the most common personal attributes associated with speakers of different Arabic varieties and dialects. The most frequent personal attributes will be later used in the main study. It was also essential to conduct a pilot study at the beginning of this study to collect as much valuable feedback as possible from respondents regarding the instrument used, speakers' voices, and description of speakers' accents. A pilot study was conducted to determine that the instructions are clear for the listeners, the questions related to the variety recognition, the personal attributes about the speakers, the length of the survey, and the listeners' time to complete the survey.

The pilot study has a number of functions that increase the questionnaire's reliability, validity, and practicability (see Cohen et al., 2018, pp. 496-497 detailed the pilot study's functions). McKenzie (2006) has noted that all aspects of a questionnaire should be piloted, including the colour, and the quality of paper used on which respondents need to respond.

The pilot study conducted adopted the VGT. To create recordings to be used in the VGT, I looked for speakers who speak different Arabic varieties from other Arabic countries and those who might elicit strong stereotypes responses as per the pilot study. The main regions identified were divided into Eastern dialects *mašriqī* and Western dialects *maġribī* (Palva, 2006). The Eastern dialect group *mašriqī* is spoken in the Middle Eastern countries, and the Western dialect group *maġribī* is spoken in North African countries. From *mašriqī* countries, I selected Jordan, Lebanon, Iraq and Egypt, and from *maġribī* countries, I selected Morocco.

The chosen countries were based on study 1, and was conducted online. The Jordan varieties were selected as the researcher's country, and it was expected to have the highest number of listeners. The Iraqi variety was selected as it had been rated one of the toughest to hear and comprehend. The Egyptian variety was chosen as it is believed to be the easiest to identify. The Moroccan variety was selected as it is the most incomprehensible to non-Maghrebi speakers. The Lebanese variety was selected as it had been regarded as the least masculine variety. The speakers were told that they would be reading four short paragraphs, two in Arabic and two in English while being recorded. They were also told (while retelling each paragraph or retelling what they understood from each paragraph) to use their dialect and talk informally or as naturally as possible (Brewer, 2013). This proved to be a successful method as I was able to extract lexical variation as well as phonological features that helped draw attention to the fact that speakers had different texts. In order to ensure the quality of the speech samples, a very high tech Zoom H5 recorder was used to record speakers. The speech recording for formal and informal style was not long, almost 15 minutes in total, including pauses time between each recording. The chosen samples for the pilot study's listening experiment was a 10 to 15 seconds-long duration of talking from each language and style per person. The total of speeches I selected from each speaker is six chunks of talk; two from standard Arabic speech style, two from speaking Arabic speech style and two from speaking English speech styles. The recording was in WAV format, but I had to convert the WAV recordings into MP3 because the Qualtrics software that the University of Canterbury purchased does not have enough space to upload all recordings using WAV, so for this reason, I had to convert them to MP3 using Audacity. Participants listened to mp3 recordings and were requested to answer two questions. First, in regards to the accent recognition question (where is the speaker from?), listeners were provided with forced options from the drop-down list. The second question was to provide three adjective words describing each speaker's accent or voice from different languages and styles. The number of speakers was fourteen; two from each language variety and dialect. The pilot study is divided into two

main sections. Section one is a listening task, and section two is composed of personal and demographic information and English proficiency.

Through the pilot study, I was able to discover the weakness of the survey. The audio clips' listening section was randomized and evenly presented to avoid fatigue (Brewer, 2013; Garrett et al., 2003), eliciting reliable and authentic responses. The listening section was divided into two blocks or audio clips. Each block or audio clip contains 86 questions; 43 questions in each block included listening to the voice stimuli and answering various questions. The next 43 questions are to elicit three adjective words describing the speaker's accent or voice. In general, listeners spent 20 to 25 minutes instead of the 10 minutes that I first planned (to complete the survey. Although 20 or 25 minutes was a long time to listen to a number of speakers and to answer the two questions, some participants took a longer time, perhaps because they had to listen a few times to be able to identify the speaker's nationality, and they need to fill out the demographic information and English proficiency level. More than half of listeners were able to complete all of the online survey.

The total number of listeners who took part in the online audio survey was 74, but only 40 listeners who completed the survey were equally distributed across genders as 20 males and 20 females from different Arab countries. The most common semantic words derived from the listener respondents will be chosen to use later in the main final online experiment study based on the first pilot study results. The last set of the Slider bar scale of personal attributes was collected from this pilot study and was derived from previous studies on language attitudes involving dialect identification, comprehensibility and accentedness (Derwing & Munro, 1997; McKenzie, 2006; Munro & Derwing, 1995a). Five personal attributes were identified and fit into two dimensions: status and solidarity. The semantic attributes selected for status and solidarity were the following: educated, standard and job for (status), masculine and kind for (solidarity), as well as accentedness and comprehensibility.

The pilot study's completion was encouraging, and difficulties that stopped participants from completing the whole survey were considered. Of these comments are 'the survey is very long', 'it is boring as I did not know when to finish the survey', 'reduce the number of the recordings', 'Interesting, but would be much better if you could include option for the second question to facilitate the job for the survey doers', 'please clarify question 2' (here the listener means for adjective provided), 'if possible to include more Arabic varieties'. Some comments said the study is impressive, and they wished me good luck in my research. I did not include options for question 2 in the pilot study because some

participants might arbitrarily or randomly select from the options to finish the survey. I wanted to encourage listeners to provide an authentic description of each voice stimuli. Once the survey was completed, the pilot study was entered into a CSV spreadsheet and calculated in R, examining the means of dialect identification correctness and other tasks. The listeners' constructive comments were taken into consideration when I designed the main study.

A number of elicitation methods were used to collect data. I used the social media network where I posted on Facebook page, other friends' timelines, and social groups. Also, I sent the online link to friends on Messenger, WhatsApp and in emails where they shared it with their networks. Next, I provide the initial results of the pilot study.

4.4.1 Questionnaire for listeners

I distributed the online audio questionnaire between October 2019 and March 2020. The target population of the listeners were Arabs everywhere. The listeners were contacted through the friend-of-a-friend methodology, with the survey posted on social media networks such as Facebook, Messenger, and WhatsApp.

Prior to listening to the audio survey and answering the questions, listeners were instructed to read an information page about the project's objective and what they were required to do. Listeners then were asked if they have any enquiry about the survey; they needed to email the researcher or the supervisor or the University of Canterbury Human Ethics Committee if they needed to address any concerns. After that, they needed to tick one of the selected two forced options, whether they agreed to participate or not. They then proceed to the audio attitude survey. When listeners finished the language identification question, the status and solidarity and the comprehensibility and accentedness questions, they needed to complete the rest of the questionnaire. The questionnaire consists of three parts: first, audio-only, where listeners need to listen to each speaker and answer questions followed by each speaker. Second, listeners need to complete the demographic information and finally to complete English language proficiency information. The demographic information part was designed to elicit information about the listeners. It comprises 8 questions including listeners' gender, age groups, level of education, the region they come from, where they live at the time of filling the survey, a region they come from for Jordanian listeners only, dialects spoken for Jordanian listeners only, language/s spoken or understood besides Arabic for all listeners, and the medium of instruction based on the last qualification obtained. These questions are typically included in perception studies to see which social variables influence the listeners' ratings.

Information about language proficiency in English was measured on a forced response to multiple-choice questions. The participants were asked to rate their speaking, understanding, reading, and writing proficiency skills in English. The English proficiency part involves 6 questions and 7 response options. These options are excellent, good, fairly good, not very good, not more than a few words or phrases, and not at all; the full questionnaire is in the (see Appendix C).

4.5 The research instrument

This section of the methodology chapter describes the research instrument in the overall order in which they were used in this study. The research instrument involved in the present study includes the following:

4.5.1 Study 2: the verbal guise technique

The main objective of this section is to investigate, by indirect means, listeners' attitudes towards varieties of Arabic speech and Arabic-accented English. The match-guise technique is the most frequently utilised in measuring listeners' perceptions towards language varieties; however, this study employed the verbal-guise technique. The main reason to employ verbal guise-technique in collecting data, as previously mentioned, is to record authentic and real varieties and dialects. The principal dimensions of speech varieties have been established by (Zahn & Hopper, 1985). The benefit of using the VGT rather than the MGT is as follows: first, recordings in someone's speech in their language variety or dialect are perceived by listener-judges as authentic, in contrast to the perceived inauthentic perception that can occur from asking a single speaker to read and retell the same text in a variety of accents (see section 2.3.3 indirect approach in Chapter 2). Secondly, the employment of speakers representing different language varieties and dialects being recorded using their natural speech dialect rather than only reading a text is more authentic and credible (Eltouhamy, 2016; McKenzie, 2008). Third, it would be very hard, perhaps impossible, to find a single speaker who can persuasively produce all the seven Arab varieties and dialects accurately, not only in Arabic but in English as well.

The semantic-differential scale employed in the present study were obtained during the pilot study. The use of uneven numbers of divisions was to provide listeners with a neutral option on the scale, and a seven-point scale is an optimum number than fewer divisions which may irritate listeners, and larger numbers were found to provide unsatisfactorily distributions (McKenzie, 2006, p. 59). Listeners were asked, e.g., 'I would

like to hire this speaker to work as a news presenter, where 1 is definitely no, and 7 is definitely yes'in the semantic-differential scale. This question was inspired by a number of research studies, e.g., Brewer (2013), who examined students' attitudes towards six rural and urban varieties of Mexican Spanish. The purpose of asking this question was to see if listeners' perceptions towards the speakers would affect their hiring decision. In the final version of the semantic differential scales, the most positive answer is 7, while the most negative answer received 1 point, as shown in table 4.10 below.

Table 4.10: The Semantic-Differential scale used in the Verbal-Guise Technique

Not standard	1	2	3	4	5	6	7	Standard
Not educated	1	2	3	4	5	6	7	Educated
Not masculine	1	2	3	4	5	6	7	Masculine
Not kind	1	2	3	4	5	6	7	Kind
Not comprehensible	1	2	3	4	5	6	7	Comprehensible
Very heavy accent	1	2	3	4	5	6	7	Very light accent

The last question was "I would like to hire this person to work as a news presenter".

Definitely no	1	2	3	4	5	6	7	Definitely yes

4.5.2 Part two: dialect recognition

As mentioned in chapter three, section 3.4, the listeners were asked to verify the identification of the seven speech varieties in Arabic and English. Listeners were asked to listen to each guise and answer the nationality question e.g., "where is the speaker from?" to forced options of 12 Arab countries, along with two non-Arab countries, America and Britain, which were added to the list. These countries were not added arbitrarily; they were added to represent nearly all the Arab countries. For example, Lebanon variety is one of the varieties under study, but Syria was added to the forced options as Syrian and Lebanon are geographically close to each other, not only in terms of borders but also in terms of phonology and lexical closeness. Moreover, Iraq and Kuwait, Morocco and Algeria, Jordan Bedouin dialect, and Saudi Arabia come close to sharing the similar features.

A number of limitations I have faced during data collection from speakers were that some speakers were not serious in their participation although the remuneration was generous ($NZ20 for less than 20 minutes of recordings), and participation, as mentioned, is voluntarily. Speakers had sufficient time as each speaker received the materials at least one week in advance to prepare for the recording. Some speakers thought they just needed to read and leave, but they found that they need to read out short texts in Arabic and English and then retell what they have read one text after another. When recordings were sent to me through research assistants, fidelity was not always good; as I mentioned above, some speakers were not serious, and I had requested re-recordings. So it took us time as we had to wait for the speakers, particularly if they had exams or other reason of delay.

Other issues I faced during collecting responses from the listeners in the pilot study that it was too long, and almost half of the listeners did not complete the whole survey. Although I received 40 responses, equally divided between 20 males and 20 females, this number was lower than I expected, but it could have been doubled if listeners had received payment for their participation. I included all the speakers of different languages and styles, except the English reading style, in the pilot study. I divided the survey into two audio experiments; each experiment had 86 questions, and a listener can take only one experiment, not both, but it was still long. Because the pilot study was long, I decided to include one speaker from each language variety. However, listeners were still not encouraged to participate, as the whole survey's duration took around 15 minutes, unless they needed to listen more often to speakers to accurately identify nationalities. I had 449 complete and full responses in the main study, but this number could have been doubled or more if listeners received payment for taking part.

4.6 Results of the pilot study

The objective of the pilot study was to examine how correctly listeners were able to identify the speaker's variety or nationality when talking in Arabic reading style, Arabic speaking style and English speaking style when listening to audio clips as shown in table 4.11 below, and they needed to select from the dropdown list. Second, listeners were asked to provide up to three words describing each speaker's accent.

Table 4.11: Languages and styles used in the listening section

Language	Style 1	Style 2
Arabic	Reading Arabic	Speaking Arabic
English		Speaking English

4.6.1 Data analysis

The data analysis was performed quantitatively. First, questionnaire responses were downloaded from Qualtrics software in a TSV file and saved as a text document. Then from the spreadsheet, I opened the TSV file and saved it as a CSV file and then analysed quantitatively. Different statistical packages were applied in R (Core Team, 2018) to analyse the audio responses and the questionnaire.

Listeners' perceptions were used as a data source to see if listeners' attitudes affected the results or their attitudes were influenced by speakers' language, style, and nationality. Using the questionnaire data helped us see different trends in which variables have a strong effect on results, for example, if speakers' specific language and style affected listeners' ratings and perceptions of speakers' nationalities, thus affecting their ratings on solidarity, status and hireability comprehensibility, along with other variables that could have affected listeners' attitudes, e.g., listeners could feel that speakers in the speaking style were not suitable for a high-status job as a news presenter.

4.6.2 Identification of the speaker language variety.

Key: Reading: Standard Arabic Speaking: Retold Arabic English: Retold English

Table 4.12: Percentages of correct responses for language and style

	language	style	correct	number	proportion
1	Arabic	Reading	correct	231	35.6
2	Arabic	Speaking	correct	344	55.8
3	English	Speaking	correct	116	19.8

Table 4.12 shows differences in listeners' recognition of the speakers' nationality. It shows the number of correct responses in general for language and style. The Arabic speaking style was the most correctly identified by the listeners (55.8), and the Arabic reading style was

(35.6%) correctly identified. This indicates that the speakers talking in spoken Arabic were almost but not perfectly easily identified. However, listeners found it difficult to correctly identify the speakers using English speaking style, at 19.8%.

Figure 4.1 shows variable responses towards dialect identification in Arabic and English by language and style. The Y axis represents the proportion.correct (correct percentage), and X-axis represents the style. The Reading style represents standard formal Arabic, and speaking style represents colloquial informal spoken Arabic and English retelling style. Figure 1 shows that listeners were more correctly able to identify the speakers when talked in Arabic speaking style than Arabic reading style. Speakers who talked in English speaking style were the least correctly identified.

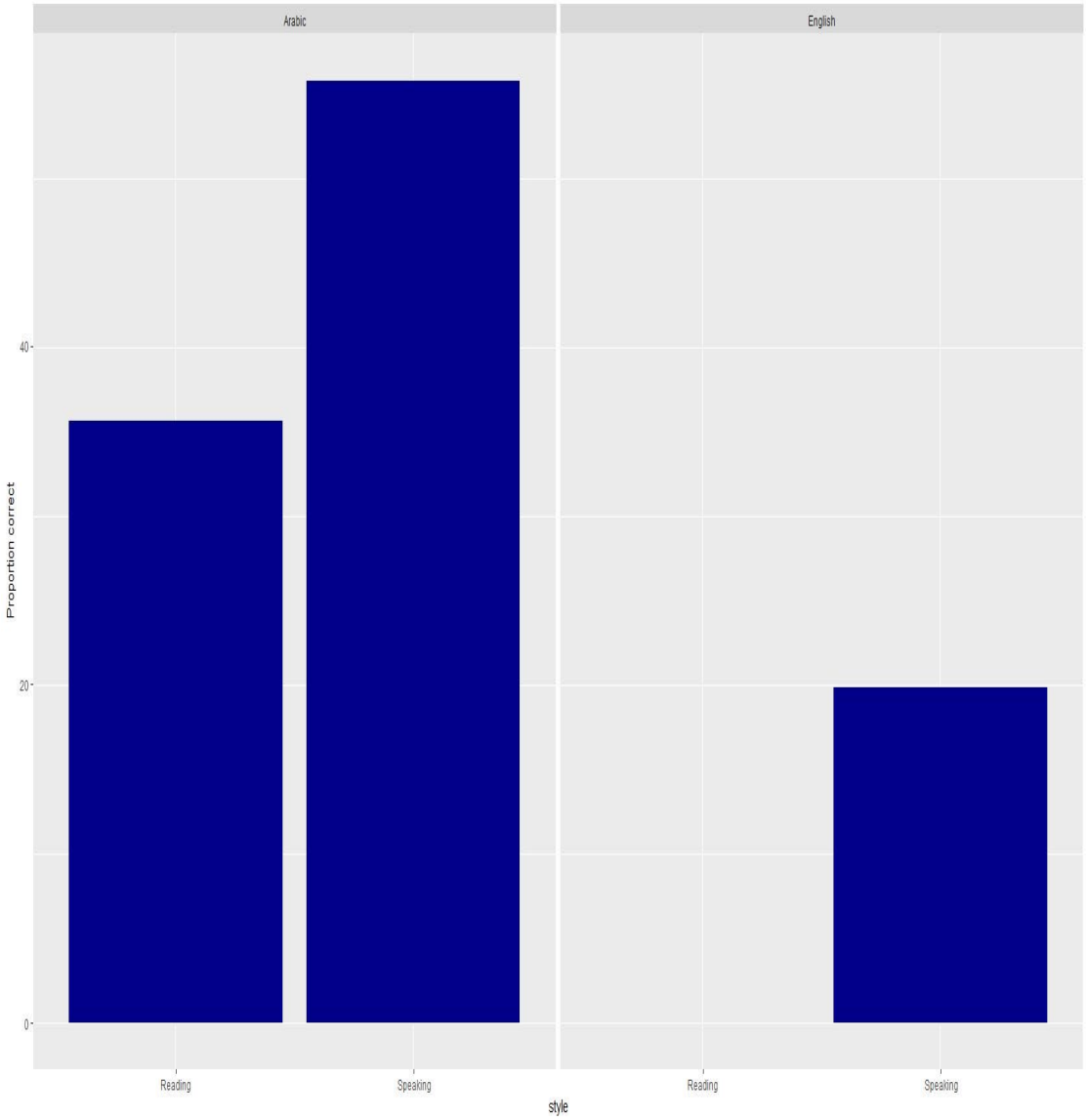

Figure 4.1: correct responses by language and style

Table 4.13: Percentages of correct identification by region and Arabic style

language	Region	style	correct	number	proportion
Arabic	Egypt	Reading	correct	68	79.1
Arabic	Egypt	Speaking	correct	94	88.7
Arabic	Iraq	Reading	correct	30	33.7
Arabic	Iraq	Speaking	correct	51	58.6
Arabic	Jordan Bedouin	Reading	correct	27	22
Arabic	Jordan Bedouin	Speaking	correct	29	41.4
Arabic	Jordan Rural	Reading	correct	20	22.5
Arabic	Jordan Rural	Speaking	correct	27	31
Arabic	Jordan Urban	Reading	correct	27	31.4
Arabic	Jordan Urban	Speaking	correct	44	46.3
Arabic	Lebanon	Reading	correct	37	40.7
Arabic	Lebanon	Speaking	correct	41	49.4
Arabic	Morocco	Reading	correct	22	26.2
Arabic	Morocco	Speaking	correct	58	65.9

The results above showed great differences between listeners' recognition of different Arab regions and Arabic styles. The table discriminates between the reading style and the speaking style. In general, when speakers were using the Arabic speaking style, listeners found it easier to identify the nationality, than if speakers were using the reading style. With respect to region, Egyptian speakers, as shown in table 4.13, were the easiest to identify in Arabic reading or speaking styles.

Figure 4.2 shows a variation in responses by region. It shows that the speakers in Arabic speaking style were more correctly identified than when using Arabic reading style. The Moroccan speakers were less likely to be identified in Arabic reading style than in

speaking Arabic style. The high recognition for Egyptian speakers is because of the Egyptian accent's prevalence through media in the Arab world.

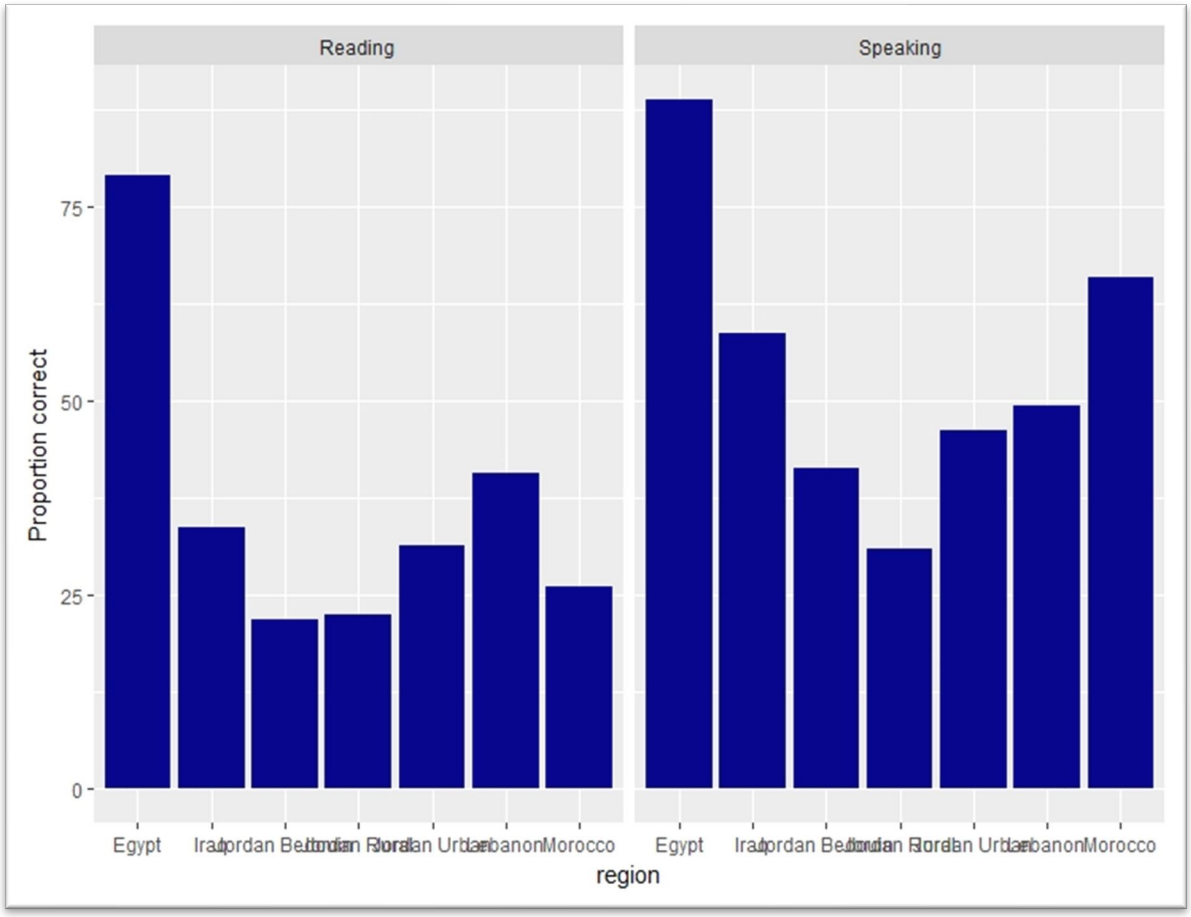

Figure 4.2: Arabic language style of correct responses by region

Table 4.14: Percentages of correct responses for English language by region and style.

1	English	Egypt	Speaking	correct	35	40.2
2	English	Iraq	Speaking	correct	5	6.02
3	English	Jordan Bedouin	Speaking	correct	20	23.8
4	English	Jordan rural	Speaking	correct	13	15.3
5	English	Jordan urban	Speaking	correct	18	22
6	English	Lebanon	Speaking	correct	13	16.2
7	English	Morocco	Speaking	correct	12	14.3

Table 4.14 shows only varying responses by language, English. As can be seen, respondents could not correctly identify speakers' nationality when speaking in English. As also can be seen, the Egyptian speakers were the most correctly identified when talking in English than other nationalities. Results show that respondents correctly identified Egyptian speakers at 40.2% even when they spoke in English, while the Iraqi speakers were the least correctly identified at 6.02%.

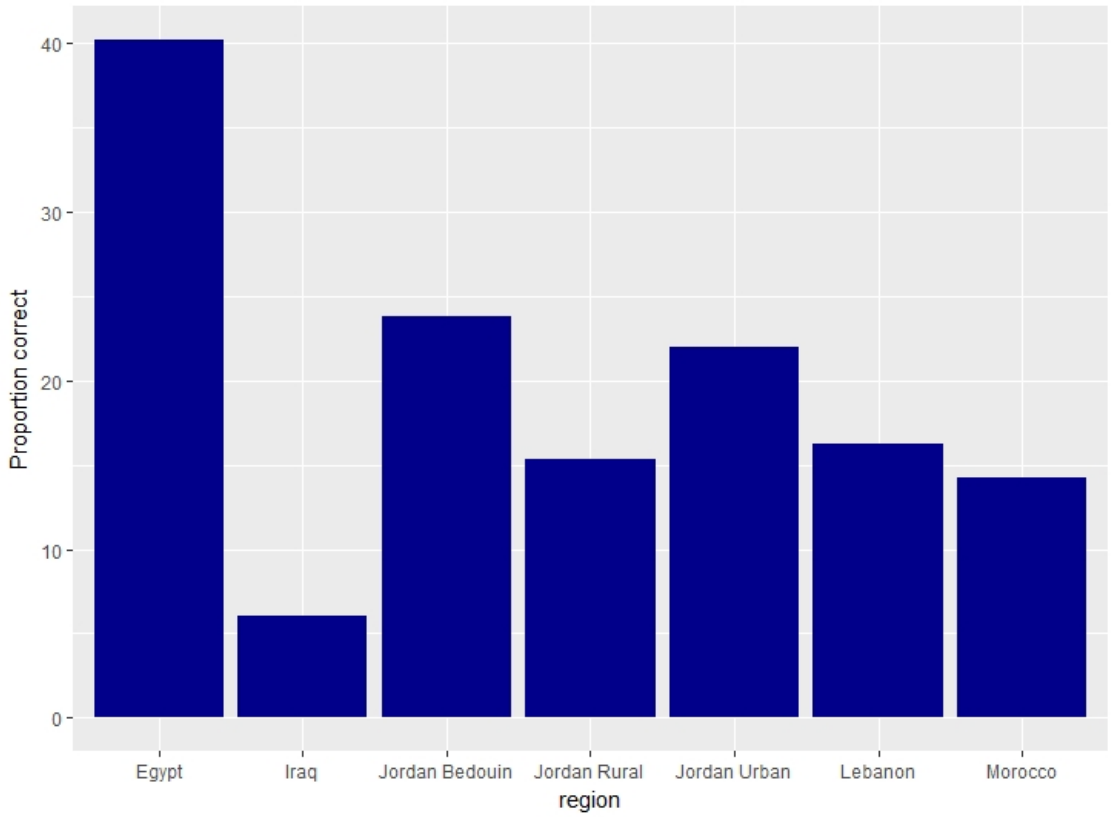

Figure 4.3: English language style of correct responses by region.

Figure 4.3 above shows a variation in correct responses by region and language (English). The style chosen in the pilot study is the English speaking style. Respondents were able to identify Egyptian speakers' accents as Egyptian even when they talked in English. Egyptian speakers were the easiest among Arabic nationalities to be identified as Egyptian, while Iraqi speakers of English were the easiest to identify.

4.6.3 The mixed effect model

This analysis was conducted using mixed-effect regression modelling; the data set comprises 1679 observations from 40 listeners, hand-fitted into binomial mixed-effects model in R using the *glmer* function in the *lme4* library (Bates et al., 2014), implemented in R (R Core Team, 2018), with 'correct' and 'incorrect' as a dependent variable. The independent variables, including age, sex, education, region, style clip and language clip, were tested as fixed effects, and two random intercepts were included for ResponeId and question. All predictors or variables that statistically significantly improved the model fit were kept. All two-way interactions, including independent variables, were tested in mixed-effect models. Models were compared using ANOVA, where models with lower AIC scores were retained. The best model had the fixed effects of two-way interactions between age and clip style, and clip language. The purpose of adding random intercept into the model is to control multiple responses per listener. The best-fitted model was found in table 4.15.

Table 4.15: Output of the best model for language variety identification in the full data set.

Fixed effects:					
	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	-1.0273	0.3385	-3.035	0.00241	**
age31-40	0.1626	0.5131	0.317	0.75128	
age41-50	1.2146	0.5069	2.396	0.01657	*
styleSpeaking	1.4974	0.351	4.266	1.99E-05	***
languageEnglish	-2.7824	0.3786	-7.348	2.01E-13	***
age31-40:styleSpeaking	-0.8685	0.3631	-2.392	0.01677	*
age41-50:styleSpeaking	-0.9675	0.3694	-2.619	0.00882	**
age31-40:languageEnglish	0.6816	0.4296	1.587	0.11262	
age41-50:languageEnglish	1.2025	0.4049	2.97	0.00298	**

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The model is presented in table 4.15, and the effects of significant variables are plotted in Figure 4.4. The Y axis signifies the correct response, and X-axis represents independent variables. There was no statistically significant effect from the younger age listeners group, but there was statistical significance of 41-50 listener age group, and a statistically significant main effect of *stylespeaking (spoken variety)* and *languageEnglish (English language)*. There were statistically significant interactions between age groups of 31-40, and 41-50 and *styleSpeaking*. There was a statistically significant interaction between 41-50 age group and *languageEnglish*. The positive value in the 'Estimate' column for styleSpeaking

indicates that, overall, listeners are able to correctly identify the speaker's nationality in speaking style than in reading style (P = 0.000019). The negative value in the 'Estimate' column for languageEnglish indicates that, overall, listeners are less likely to identify the speaker's nationality when they talk in English (P = 0.000).

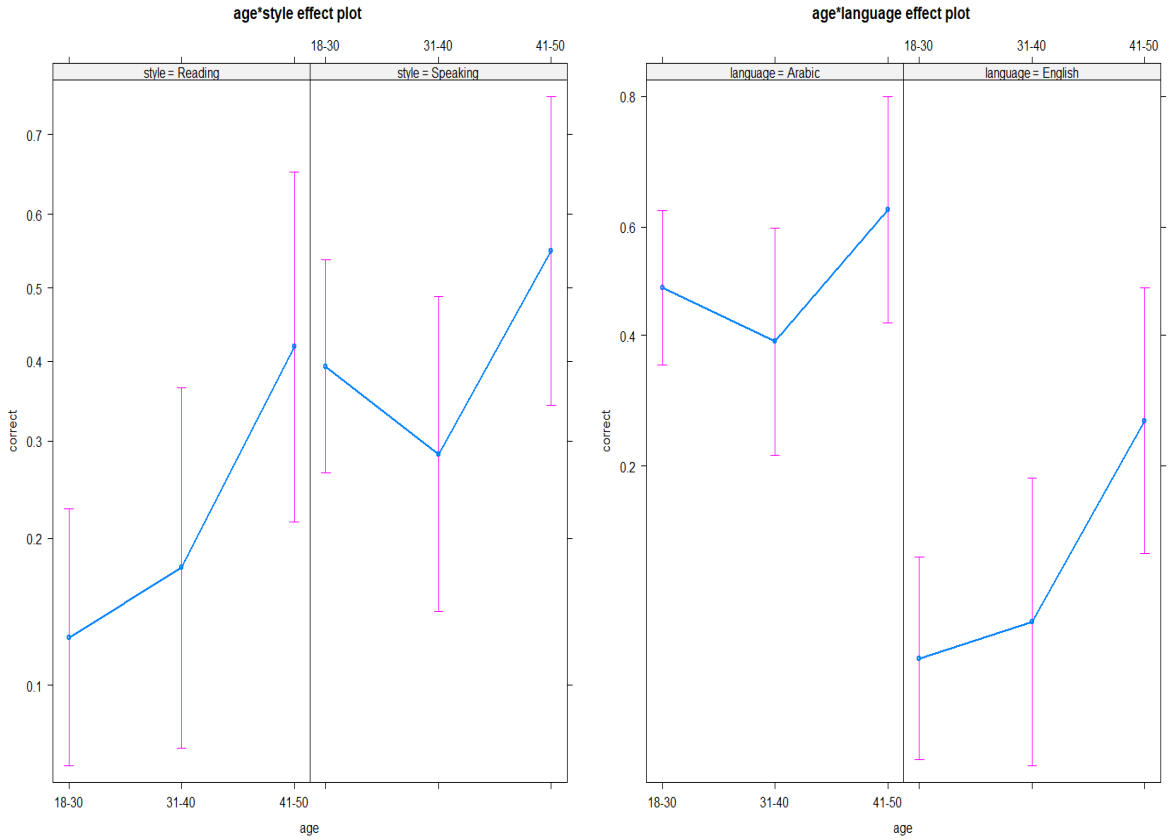

Figure 4.4: The interaction of age on style and language clips.

This model shows an interaction of age with style and language. The mixed-effect regression model looked at correct/incorrect responses as a dependent variable by looking at the effect of age by interacting with stylespeaking style and English language. Figure 4.4 shows that the Y-axes are correctness and the X-axes represent age. The left plot represents age and its effect on style=Reading and style=Speaking, and the plot on the right represents age and its effect on language=Arabic and language=English. The interaction between age and style is statistically significant, and it was found that the effect of older 41-50 age listeners on the speaking style (style: Speaking) is more robust and more accurate in identifying speakers' nationalities than younger age listeners, and more accurate than that of the reading style (style: Reading). In a nutshell, participants of older ages were more accurate in identifying a speaker's nationality in style: Speaking than in style: Reading. The language plot on the

right shows that the interaction between age and language is statistically significant. It was found that listeners correctly identified the speakers' nationalities when speaking in Arabic than in English. Also, the older age group 41-50 was statistically significant in identifying the speaker's nationality or language variety when speaking in English more accurate than the younger age group.

Overall, the results of the pilot study showed that speakers were more correctly identified in the Arabic speaking style than in the Arabic reading style and English speaking style. It showed also the Egyptian variety was the most easy to be identified in both languages and styles than other varieties. Moreover, the results showed that older age group listeners were more accurate in identifying the speakers' nationalities in both languages and styles than younger age groups. The pilot study results will be an extension to the main study and examine whether the same results will be found in study 2.

4.7 Chapter Summary

This chapter has provided all the procedures and methods that I used. It also presented the various data collections employed in this study and why they were selected. I also provided an overview of the two main studies as well as the aim of the pilot study and its results. I also included a detailed description of the statistical analysis that has been used to analyse the data and the results. Having completed the methodology's discussion, the next chapter will present and discuss the results and analyse the first study's data.

Chapter 5: Study 1: Attitudes towards Jordan dialects and some Arabic varieties

In chapter four, I outlined the methods I used in this research. This chapter presents the results generated from Study 1. First, I analysed the data collected from the direct approach. To investigate the participants' attitudes towards the selected varieties, I discussed the results based on Arabic varieties' ratings. Section three of this chapter examines the influence of participants' attitudes in general towards Arabic varieties using only accent labels. The chapter starts with Jordanian participants' attitudes and ratings towards MSA and Jordanian spoken dialects regarding prestige, preference, and dialect heritage. The research questions are in section 5.1.1.

5.1 Section one of questionnaire analysis

This part of the study aimed to investigate, by direct means, the attitudes of Jordanian participants towards dialect prestige, dialect preference, and dialect heritage evaluations. To achieve this, MSA variety and the three Jordanian spoken dialects of Arabic were selected for evaluations. Participants' responses were then tabulated and analysed. First, I present the results of prestige evaluation, dialect preference evaluation results, and finally, the results related to Jordanian society's original dialect, respectively.

5.1.1 Research question for section one

1. What attitudes do Jordanian participants hold towards MSA variety, Urban, Rural and Bedouin Jordan spoken dialects in terms of prestige, preference, and dialect heritage?

The first question consists of three sub-questions. I will go through each sub-question in turn. First, I will work on the first part, which is related to prestige variety. Forced options were given to participants to rate. In this part of the questionnaire, a question was posed to participants asking them to rate the MSA variety and Jordanian dialects in terms of high prestige on a scale from one to seven, where 1 means the least and 7 is the most.

Table 5.1: The overall mean evaluations and standard deviation on prestige evaluation by Jordanian participants

Dialect	Mean	Std Deviation
MSA	4.48	2.25
Urban	4.90	1.67
Rural	4.34	1.62
Bedouin	3.87	1.87

Participants were requested to present their judgments on prestige variety evaluation. Table 5.1 shows the overall mean responses to language variety of MSA, Urban, Rural and Bedouin varieties in terms of prestige evaluation. Although the first three varieties' ratings are closer to each other, over 4.0, the urban variety was rated the highest and considered a prestigious variety among Jordanian participants. This result is in one part consistent with Abd-el-Jawad (1986)'s findings that the urban is the most prestigious variety in Jordan, but, on the other hand, it contradicts findings of (Hussein & El-Ali, 1989).

5.1.1.1 The relationship between prestige ratings and social factors

As outlined in section 3, the survey aimed to collect responses from Jordanian participants. 3724 observations from 931 participants were hand-fit into a mixed-effect regression model over the entire data using the lmer function in the lme4 package in R (Bates, Mächler, Bolker, & Walker, 2015), with dialect prestige as the dependent variable. I started with a model having all fixed variables, and one random intercept was included for participants. I tested the following fixed effects and independent variables (IVs) in the full model:

- Age group: 18-24, 25-30, 31-35, 36-40, 42-45, and 46+ years old.
- Sex: male and females.
- Education: PhD, Masters, Bachelors, and Other (Diploma and under degree).
- Own dialect: Urban, Rural, and Bedouin.
- Region: Ajloun, Amman, Aqaba, Balqa, Irbid, Irbid, Jerash, Kerak, Ma.an, Madaba, Mafraq, Tafila, and Zarqa.

One of the research questions was to examine how social variables might explain the difference in the responses. The social variables were tested as fixed effects, and the interactions between the fixed effects were tested. Mixed-effects regression models were applied to see if there is a correlation between attitudes towards dialects and fixed effects. As discussed earlier, the most important aspect in the regression analysis is to find the best

fitting model. These were achieved by repeating the models with and without social variables and interactions, eliminating non-significant variables and interactions. Then, each time the analysis of variance (ANOVA) was used to compare the models, models with lower AIC scores were preferred. The region variable was excluded from the analysis due to the uneven distribution of participants across regions (see table two, above). The best model had the fixed effects of two-way interactions between prestige dialect and Age-groups, Sex, Education, and Own dialect. The final-fitted model includes fixed effects that significantly improved the model is found in table 5.2.

Table 5.2: Fixed effects model for the dialect prestige evaluation in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	4.66E+00	2.38E-01	3.67E+03	19.593	< 2e-16	***
Dialectbedouin	6.17E-01	3.31E-01	2.76E+03	1.861	0.062806	.
Dialectrural	-5.96E-01	3.31E-01	2.76E+03	-1.798	0.072267	.
Dialecturban	-1.03E+00	3.31E-01	2.76E+03	-3.112	0.001877	**
agegroup25-30	1.08E-01	1.64E-01	3.67E+03	0.662	0.507739	
agegroup31-35	4.35E-01	2.22E-01	3.67E+03	1.96	0.050073	.
agegroup36-40	3.52E-01	2.14E-01	3.67E+03	1.642	0.100656	
agegroup41-45	9.95E-01	2.49E-01	3.67E+03	4.004	6.36E-05	***
agegroup46+	9.22E-01	2.84E-01	3.67E+03	3.243	0.001192	**
Sexmale	7.26E-02	1.32E-01	3.67E+03	0.549	0.583346	
educMasters	-2.27E-01	1.60E-01	3.67E+03	-1.418	0.156158	
educOther	-6.00E-02	2.24E-01	3.67E+03	-0.268	0.788639	
educPhD	2.44E-01	2.82E-01	3.67E+03	0.866	0.38679	
owndiaRural	-3.85E-01	2.41E-01	3.67E+03	-1.598	0.110089	
owndiaUrban	-4.72E-01	2.40E-01	3.67E+03	-1.964	0.049573	*
dialectbedouin:agegroup25-30	-2.15E-01	2.28E-01	2.76E+03	-0.941	0.346716	
dialectrural:agegroup25-30	-3.03E-01	2.28E-01	2.76E+03	-1.328	0.184212	
dialecturban:agegroup25-30	-3.14E-02	2.28E-01	2.76E+03	-0.138	0.890283	
dialectbedouin:agegroup31-35	-2.01E-01	3.09E-01	2.76E+03	-0.651	0.515089	
dialectrural:agegroup31-35	-3.98E-01	3.09E-01	2.76E+03	-1.288	0.197698	
dialecturban:agegroup31-35	-2.30E-01	3.09E-01	2.76E+03	-0.745	0.456275	
dialectbedouin:agegroup36-40	-9.35E-02	2.99E-01	2.76E+03	-0.313	0.754454	
dialectrural:agegroup36-40	-6.36E-01	2.99E-01	2.76E+03	-2.13	0.033287	*
dialecturban:agegroup36-40	-3.16E-01	2.99E-01	2.76E+03	-1.059	0.289791	
dialectbedouin:agegroup41-45	-1.05E+00	3.46E-01	2.76E+03	-3.038	0.002403	**
dialectrural:agegroup41-45	-1.00E+00	3.46E-01	2.76E+03	-2.887	0.003915	**
dialecturban:agegroup41-45	-1.17E+00	3.46E-01	2.76E+03	-3.371	0.000759	***
dialectbedouin:agegroup46+	-8.63E-01	3.96E-01	2.76E+03	-2.179	0.029443	*

dialectrural:agegroup46+	-1.40E+00	3.96E-01	2.76E+03	-3.547	0.000397	***
dialecturban:agegroup46+	-1.08E+00	3.96E-01	2.76E+03	-2.732	0.006329	**
dialectbedouin:sexmale	3.65E-01	1.84E-01	2.76E+03	1.98	0.047819	*
dialectrural:sexmale	-8.54E-02	1.84E-01	2.76E+03	-0.463	0.643273	
dialecturban:sexmale	-6.60E-01	1.84E-01	2.76E+03	-3.578	0.000352	***
dialectbedouin:educMasters	-6.63E-03	2.23E-01	2.76E+03	-0.03	0.976277	
dialectrural:educMasters	7.29E-02	2.23E-01	2.76E+03	0.327	0.743949	
dialecturban:educMasters	3.12E-01	2.23E-01	2.76E+03	1.398	0.162363	
dialectbedouin:educOther	8.64E-01	3.12E-01	2.76E+03	2.772	0.005609	**
dialectrural:educOther	3.52E-01	3.12E-01	2.76E+03	1.129	0.258986	
dialecturban:educOther	-2.24E-01	3.12E-01	2.76E+03	-0.718	0.472619	
dialectbedouin:educPhD	-4.52E-01	3.93E-01	2.76E+03	-1.151	0.249938	
dialectrural:educPhD	-1.53E-01	3.93E-01	2.76E+03	-0.389	0.697204	
dialecturban:educPhD	-1.01E-01	3.93E-01	2.76E+03	-0.258	0.796508	
dialectbedouin:owndiaRural	-1.42E+00	3.36E-01	2.76E+03	-4.228	2.44E-05	***
dialectrural:owndiaRural	1.40E+00	3.36E-01	2.76E+03	4.153	3.38E-05	***
dialecturban:owndiaRural	1.64E+00	3.36E-01	2.76E+03	4.884	1.10E-06	***
dialectbedouin:owndiaUrban	-1.22E+00	3.35E-01	2.76E+03	-3.644	0.000273	***
dialectrural:owndiaUrban	3.52E-01	3.35E-01	2.76E+03	1.052	0.29279	
dialecturban:owndiaUrban	2.37E+00	3.35E-01	2.76E+03	7.084	1.77E-12	***

Table 5.2 presents the results of the analysis. The positive value shows a positive correlation, and the negative value shows a negative correlation. The coefficients of dialect Urban is negatively correlated with a p-value of 0.001877. The coefficient for age group 41-45 and age group 46+ is statistically significant with p values of 6.36E-05 and 0.001192. The coefficient of owndiaUrban (own dialect urban) is negatively correlated with a p-value of 0.049573. There were statistically significant interactions between dialects and social variables. For instance, the interactions of rural dialect and age group 36-40 are significant ($p = 0.033287$). The coefficient of the interactions between Bedouin, rural, urban dialects and age group 41-45 are also significant ($p = 0.002403$; $p = 0.003915$; $p = 0.000759$) respectively. The interaction between Bedouin, rural, urban dialects and age group 46+ are also significant ($p = 0.029443$; $p = 0.000397$; $p = 0.006329$) respectively. There were statistically significant interactions of Bedouin and urban dialects with gender ($p = 0.047819$; $p = 0.000352$). The coefficient of the interaction between Bedouin dialect and education is significant, with a p-value of 0.005609. The interactions of Bedouin, rural, and urban dialects with owndiaRural (own dialect rural) are significant ($p = 2.44E-05$; $p = 3.38E-05$; $p = 1.10E-06$) respectively. Likewise, the interaction between Urban dialect rating and owndiaUrban is also significant with a p-value of 1.77E-12. I examined these effects below.

Negative values in the prestige variety indicate a lower chance for prestige, and positive values mean a higher chance for prestige. For example, the negative value in the 'Estimate' column for urban dialect is less likely than MSA variety to be rated as a prestige ($p = 0.002$). A positive value in the Estimate column for the older age group 41-45 indicates that participants of the older age group, overall, rated the MSA variety higher than the younger age group ($p = 0.00006$), as shown in Figure 5.1.

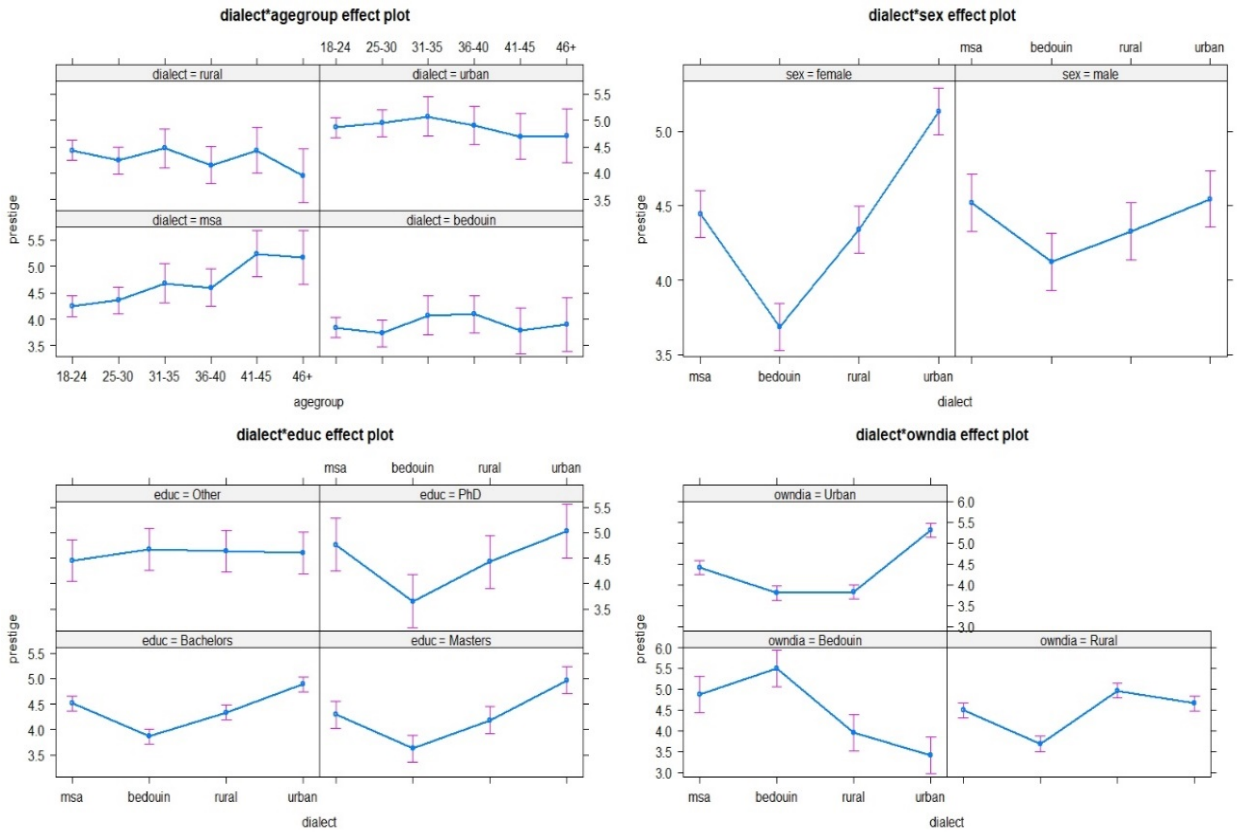

Figure 5.1: shows the effect of fixed effects on dialect prestige evaluation.

Figure 5.1 plots the coefficient relationships between dialects and social variables. The Y-axis represents the prestige evaluation, and the X-axis represents age groups, sex, education, and own dialect. The top left model shows that older participants seem to give higher ratings for MSA on prestige evaluation, more so than the youngest participants. The prestige for other dialects is reasonably stable over time, but for MSA variety, it goes from 4.2 to almost 5.5. Overall, MSA's prestige is reducing over time (X-axis). The urban dialect, overall, receives positive ratings from all age groups. Overall, this plot shows the variation in ratings between participants of different age groups and prestige varieties ratings.

The interaction between sex and dialect is represented in the top right panel. This graph shows that both female and male participants have the same shape or trend. Female and male responses towards the Bedouin dialect are the least favourable. When we compare all responses, we can see that the female response has a broader spectrum than the male response since the female response line is steeper, and the male response line is flat. Men do not show more significant differences across variety as women do, but they follow the same pattern. To put it another way, male participants are significantly more favourable towards Bedouin dialect than female participants. Female participants are often more enthusiastic about urban dialect than male participants.

Furthermore, both female and male participants give MSA variation a higher ranking of 4.5. This graph also illustrates how male and female participants rated urban dialect differently. The urban dialect was ranked higher by female participants than by male participants.

The bottom left panel shows a significant interaction between education and dialect. The model shows a statistically significant interaction between education Other and dialect Bedouin ($p = 0.005$). Figure 1 shows that education Other is different from the rest, but Bachelors, Masters and PhD have the same shape. The significant difference comes from the straight line of Other degree. Participants of higher degrees, overall, downgraded the Bedouin dialect and upgraded the MSA variety. Overall, the Other degree responses do not have different attitudes about the prestige of different dialects. They consider dialects to be equally prestigious.

The bottom right panel shows statistically significant interactions between participants' dialects and Jordanian spoken dialects. Overall, participants of various dialects ranked their dialects favourably while downgrading other dialects. Urban and Bedouin speakers rated their dialects positively but markedly downgraded other dialects. The rural speakers positively upgraded their dialect and outstandingly downgraded other dialects except for the urban dialect. With respect to the MSA variety, participants of urban and Bedouin dialects elevated the MSA variety after their dialects, but rural participants showed more loyalty to the urban dialect at the expense of the MSA variety. For context, it is worth mentioning that the number of participants for each dialect is: Bedouin 66, rural 406, and urban 459. In sections 5.1.2, 5.1.3.1, and 5.1.4, I divided Q1 into three sub-questions: Q1.1 which is a question about language variety prestige, Q1.2 which is a question about language variety preference, and Q1.3 which is a question about the heritage language of the Jordanian society.

5.1.2 Prestige evaluation discussion

Q1.1 What attitudes do Jordanian people hold towards MSA variety, Urban, Rural and Bedouin Jordanian spoken dialects in terms of prestige?

There appears to be positive attitudes regarding Q1.1 in Study 1 that the Jordanian Urban dialect is perceived the most prestigious followed by MSA, Rural and Bedouin dialects as can be seen in table 5.1 above. Although, MSA is associated with education, media, official communication and political speech, and prestige and high status are associated with H variety of languages (Ferguson, 1959a), the Urban dialect, even though it is not considered a H variety, it received the highest ratings on prestige. However, the finding of the Urban dialect as a prestigious variety in not in line with (Albirini, 2016; Holes, 1983; Hussein & El-Ali, 1989; Saidat, 2010). Saidat (2010, p. 235) argues that MSA is perceived as the most prestigious variety in Jordan; however, previous studies have shown disagreement over the 'local prestige'. Of the existing research on language attitudes in the Arab context, Albirini (2016) states that positive attitudes exist towards SA, and negative attitudes occur towards colloquial Arabic. Hussein and El-Ali (1989) found that the students evaluated MSA in superior respect and admiration compared to the three colloquial varieties and higher than the urban variety on social status. The positive attitudes towards MSA are associated with a higher level of education. Murad (2007) surveyed the attitudes of Iraqi individuals, a group of 107 college students and 98 non-students with no post-secondary degree. The results showed a significant difference between the two groups; the students were more favorable attitudes towards SA than the non-students, who preferred Iraqi QA. However, I argue with Murad, and as can be seen in figure 5.1, the high level of education supported the Urban dialect as the prestigious variety.

The finding of the prestige variety as can be seen in figure 5.1 above is somewhat compatible with other studies that MSA is equally standard and prestige while urban variety is only prestige (Ibrahim, 1986). Ibrahim (1986) proposes that the prestige variety is associated with socioeconomic class and mobility, but MSA or SA is not. He, however, has suggested that "since any Arabic speaking society is sociolinguistically stratified and H is not a factor in this stratification, the L varieties of Arabic must have their hierarchical order of prestige independently of H and any of the latter's features" (p. 118-119). This finding is in line with many other studies that the Jordan Urban dialect is a prestige variety among Urban and non-urban speakers (Abd-el-Jawad, 1986; Al-Raba'a, 2016; Al-Wer, 1997; Eltouhamy, 2016; Kojak, 1983; Schmidt, 1986). The rating of the Urban dialect in this study

is quite complicated. Though it was rated the highest on prestige in Q1.1, but the rating of the Urban dialect in Q2 (see section 5.2.1.2 below) is not associated with prestige, modernisation and high status. see Appendix A, section two.

Generally, MSA is perceived to have higher status over QA; the picture somewhat becomes blurry when MSA is compared to other influential languages such as English and French (Albirini, 2016). It is still believed that the SA is a suitable language in all personality characteristics (e.g. Intelligence, Likeability, Religiousness, and Leadership) and associated with media and education (El-Dash & Tucker, 1975; Shaaban & Ghaith, 2002).

Apart from SA, when QA varieties are concerned, attitudes have become more difficult to tackle because they relate to different contextual and speaker variables (Albirini, 2016). Participants in Q 1.1 attributed positive attitudes towards the Urban variety as a social status marker (Abd-el-Jawad, 1986). The urban variety derives its prestige and power from being a city language where educational institutions, businesses, and services are located, whereas rural and Bedouin areas lack some of these facilities (Abd-el-Jawad, 1986; Al-Raba'a, 2016).

Figure 5.1 above shows that participants rated the urban variety, overtime, prestigious; however, older age participants rated MSA higher on prestige. The finding of a prestige dialect is partially in line with Al-Raba'a (2016) that the younger and older urban speakers view their dialect as highly prestigious while rural and Bedouin dialects are stigmatised. Female participants and participants, whose dialect is urban, rated the Urban dialect as prestigious. In accordance with that, a number of studies (Abd-el-Jawad, 1986, 1987; Al-Raba'a, 2016; Ibrahim, 1986) state that within the same area or socioeconomic class, women use more socially prestige varieties of speech than men do. In another meaning, Saidat (2010) argues that women consider the urban dialect as highly prestigious, men perceive the Jordanian rural and Bedouin dialects as the most prestigious. The Jordanian Bedouin dialect though it was rated the least prestigious, 'it, historically, enjoyed a high status, held high esteem never paralleled except by Classical Arabic' (Hussein & El-Ali, 1989, p. 39).

In the prestige section, I have presented the findings of the prestige variety, and discussed the results and the main effects and interactions of participants' age, gender, and education. In the next section of question one, I presented the findings of language variety preference and discuss them.

5.1.3 Preference evaluation

The second sub-question of question one is what variety participants prefer. Forced options were provided to select from, and only one option should be chosen.

Which variety do you prefer?

Table 5.3: Respondents response to dialect preference

Variety	Bedouin	Rural	Urban
Bedouin	65.15152	4.187192	5.882353
MSA	25.75758	16.25616	16.55773
Rural	3.030303	58.867	6.100218
Urban	6.060606	20.68966	71.4597

Table 5.3 shows the percentage of respondents of different dialects who responded to the variety they prefer. Responses have shown that respondents preferred their own dialects. These results are consistent with Ferguson (1959b, p. 379), in that "everyone thinks his dialect as the nearest to classical, the easiest to learn, and the most widely understood of the colloquial dialects". For example, as can be seen in table 5, the Bedouin participants preferred their own dialect, followed by the MSA variety, and then urban and rural dialects. The urban respondents highly preferred their own dialect, followed by MSA and then preferred rural and Bedouin dialects. The rural respondents preferred their dialect, but they preferred in second place the urban dialect, followed by MSA and the Bedouin dialect.

The results of preference evaluation shown in table 5.3 are not clearly in line with Hussein and El-Ali (1989). On preference findings, they found that MSA was rated the highest, and Bedouin variety was the most preferred colloquial variety, with urban variety the least preferred, which contradicts my findings. They found that Rural, Urban and Bedouin speakers rated MSA variety first, followed by their dialect, except for rural speakers who ranked their dialect third after the Bedouin dialect. Hussein and El-Ali (1989) attributed this due to presence of stigmatized features in rural dialects.

5.1.3.1 Preference evaluation discussion.

Q1.2 What attitudes do Jordanian people hold towards MSA variety, Urban, Rural and Bedouin Jordanian spoken dialects in terms of preference?

The SA and QA dichotomy are two forms that are broadly accepted between their speakers and learners. Even so, Arabic learners can tell the difference between SA and QA as both

varieties share many aspects of syntactic, phonological, lexical and morphological levels (see Albirini, 2016, p. 27). A question was directly posted, as "Which variety do you prefer? Forced options were provided of Modern Standard Arabic, Urban, Rural, and Bedouin". Participants were requested to only select one option. A large number of participants expressed remarkably more positive preferences towards the urban variety. Table 5.4 below shows that respondents greatly preferred the urban dialect, and the Bedouin dialect was the least preferred.

Table 5.4: Dialect preference evaluation by participants

Bedouin	MSA	Rural	Urban
87	159	269	416

All the studies above show that urban dialect is the most preferred. However, Sawaie (1987) found that the standard Arabic variant /q/ was the most preferred, followed by the /g/ and then the /ʔ/. Hussein and El-Ali (1989) found that the MSA is the most preferred variety, followed by Bedouin and rural successively, and finally, urban was rated the least preferred. The finding is also compatible with Lindemann (2003), that people prefer dialects spoken by powerful groups.

However, in the current study, the urban variety was rated the most preferred among participants (see section 2.6.3 in chapter 2) for several reasons. The use of prestige variants is evidence among Jordan speakers that the Jordan Urban dialect is preferable among women more than men, and among the younger generation who prefer using the urban variety in daily communication. I speculate that the glottal stop /ʔ/ is used instead of the standard /q/ or its variants /q, g, k /. The interdental fricative /θ/ has two variants: /θ/ as the Standard feature, and the variant [t] as a feature of a city urban dialect, for example [maθalan], which means 'example' in standard Arabic becomes [maθalan], but in urban dialect it becomes [matalan] or [masalan]. The voiced interdental fricative /ð/ has one variant /d/, for example, /ðab/, which means 'melted' becomes /ðab/ in standard Arabic and other Jordanian dialects, but becomes /dab/ in prestige urban dialect (Al-Wer, 2014; Al-Wer, 1997). Abd-el-Jawad (1986) stated that the urban varieties spoken in main cities and towns are gaining ground and spreading. Also, society views the urban glottal stop variant /ʔ/ as a marker associated with richness and wealth, high class, respect, but it is also associated with femininity, as well. Bedouin and rural women produce the linguistic variant /ʔ/ and other urban variants,

while speakers of the urban dialect hardly shift their speech into rural or Bedouin (Abd-El-Jawad, 1987; Abdel-Jawad, 1981; Al-Sughayer, 1990). In his study of rural and urban Jordanians' attitudes towards each other's varieties, Al-Raba'a (2016) found that participants prefer the urban variety over the rural variety shown by the younger participants.

Participants of different age groups have other preferences. For example, younger age groups preferred the urban dialect; middle age groups preferred the rural dialect, whereas older age groups preferred the urban dialect and the MSA variety. In terms of educational levels, participants of "Bachelors", "Masters", and "Other" degrees preferred the urban dialect, while participants of the "PhD" degree preferred the rural dialect. Participants of different dialects preferred their own spoken dialect, e.g., Bedouin participants preferred their Bedouin dialect, rural participants preferred theirs, as well as urban speakers. However, as shown in Table 5.4, the urban variety was the most preferred.

5.1.4 Dialect heritage

Q1.3 What attitudes do Jordanian people hold towards MSA variety, Urban, Rural and Bedouin Jordanian spoken dialects in terms of dialect heritage of the Jordanian society?
The third sub-question of question one asks participants about the authentic variety of Jordanian society. Forced options were provided to select from, and only one option could be chosen.

Which dialect is the original of Jordanian society?

Table 5.5: Responses to dialect heritage

Variety	Bedouin	Rural	Urban
Bedouin	81.53846	41.37931	61.72566
MSA	6.153846	4.679803	6.415929
Rural	12.30769	52.95567	26.99115
Urban	0.0000000	0.985222	4.867257

As shown in table 5.5, results have indicated that the Bedouin dialect, more than other Jordanian dialects, was rated the highest as the Jordanian society's original dialect. Bedouin and Urban participants demonstrated that they considered the Bedouin dialect to be the original dialect of the Jordanian society, followed by the Rural dialect. Rural participants have shown that the rural dialect is the original dialect of the Jordanian society, followed by the Bedouin dialect. However, the Urban dialect is shown to not be

considered an original dialect of Jordanian society. As previously mentioned, an MSA variety is not a mother tongue for anyone and does not belong to any country.

Bedouin people are dispersed all over Jordan. They live in the middle, western and southern regions of Jordan (Saidat, 2010). It is worth mentioning that there is no single study that seeks to trace back to Jordan's original dialect. Most studies on Jordan dialects have investigated Jordan varieties in terms of dialect contact, language attitude, phonology, morphology, sociophonetics, sociolinguistics, and syntax (Abd-el-Jawad, 1986, 1987; Al-Raba'a, 2016; Al Huneety, 2015; Cleveland, 1963; Hussein & El-Ali, 1989; Ibrahim, 1986; Palva, 2008; Rakhieh, 2009; Sakarna, 2005; Sawaie, 1987).

Therefore, Jordan hosts a mix of dialects that exist side by side hundreds of years ago. Both Bedouin and Rural dialects existed in Jordan and some areas, particularly in the south. The fabric of the structural society is a mixture of Bedouin and Rural dialects that follow the tribal structure of the Bedouin society (Palva, 2008). Some sedentary populations in the central of Jordan, for example, in es-Salt and the south, el-Karak and Ma'an, have been affected by neighbouring Bedouin dialects (Al Huneety, 2015; Herin, 2013; Palva, 2008; Rakhieh, 2009). These conclusions are compatible with the findings of Al-Wer, Horesh, Herin, and Fanis (2015), that the Horani dialect (which is a part of rural variety) stretches from the south of Damascus to the outskirts of Kerak in southern Jordan, including all northern and central regions. The language variety in es-Salt was Bedouin and speakers have the version of the variety of the Syro-Mesopotamian because they shared the language with the Bedouin more than two hundred years ago. This language variety also much more common than in el-Karak, and the Bedouin dialect in el-Karak belongs to the Northwest Arabian type (see Palva, 2008).

Jordanian people, especially in the middle and in the north, think that the dialect of the southern part of Jordan is Bedouin because it shares features from neighbouring Bedouin dialects. The only governorate in Jordan within which no one argues about dialect is the governorate of Al-Mafraq in the north of Jordan that, by far and large, is purely Bedouinzed. While several literature studies have confirmed which dialect is the most preferred and the least preferred, however, in Jordan, no one disagrees about the Bedouin variety being the original dialect of Jordanian society. Table 5.5 above shows that the Bedouin variety enjoyed high recognition as an original dialect of the Jordanian society, followed by the rural dialect. The urban variety was rated the least because it is not a pure Jordanian dialect. It is believed that the Bedouin variety has been associated with Arab culture, history, a form of the correct

Arabic, intelligent and eloquent (see Hussein & El-Ali, 1989), and Bedouin people "the purest Arabic" (see Nader, 1962, p. 279).

Rural dialects are mainly spoken by farmers (peasants) who live in the countryside and/or villages (Rakhieh, 2009). These dialects share similarities to the Horani dialect, which is spoken in the south of Syria. However, few studies were conducted about dialects spoken in the south of Jordan, such as Kerak, Tafila, Ma'an and Aqaba (Al Huneety, 2015; Rakhieh, 2009). If the Bedouin variety and the rural variety are spoken in the south of Jordan, the rural dialect speakers outnumber the Bedouin dialect speakers. Why is the Bedouin variety seen as representing the original dialect of the Jordanian society? In reply, we attribute this likely to the influence of media, movies, and entertainment episodes performed in Bedouin areas, and Bedouin dialects presented on Jordanian local TV a long time ago before the advent of satellite broadcast. It is essential to mention that the results of question one confirmed many of our expectations about the evaluation of language prestige, preference and dialect origin.

In this section, we discussed the varieties recognized by Jordanian participants, namely MSA, Urban, Rural, and Bedouin, in terms of prestige, preference and dialect heritage. MSA is typically a variety used in formal situations such as media, education, and religious discourses, whereas Jordanian colloquial dialects are used in informal situations such as everyday conversations. This section argued whether MSA is standard and prestigious, or only standard, and whether Urban dialect is prestigious. MSA or SA stems its prestige from historical, religious, and literary factors, as well as its status as an official language across most Arab countries. In contrast, urban dialect prestige is built on the urban centres' socioeconomic status and power. The rural dialect is sometimes considered prestigious when it is endowed with clarity and eloquence. The Bedouin dialect is historically regarded as prestigious as it is perceived as a pure language and has historically enjoyed high status. The Standard Arabic variety and the Colloquial Arabic dialects have different statuses and functions in Arabic communities. Hence, as mentioned earlier, the concept of prestige is a complex set of social, demographic, conceptual, and economic factors.

The dialect heritage evaluation section presented a detailed analysis of which variety is the authentic or original dialect of the Jordanian society and which one is not. From the results in table 5.5, the Bedouin Jordanian dialect was rated the original dialect of the Jordanian society. Rural dialect was placed second, but there is not yet any single study has clarified why the Bedouin dialect is the original dialect of the Jordanian society.

Taken together, the above sections have examined and discussed Jordanian participants' attitudes to present a general picture of dialect prestige, preference, and dialect origin of Jordanian participants' attitudes. Relationships between attitudes and social factors were found and discussed. Overall, Urban and MSA were the most prestigious, urban was the most preferred, and Bedouin was the authentic variety of Jordanian society. In the next section, I presented participants' attitudes of agreement and disagreement with judgment statements and describe the use of PCA and the results.

5.2 Principal component analysis

Section two of the first study was about rating the 20 judgemental statements on a Likert scale (see Appendix A). As mentioned in the previous chapter, the PCA is used to reduce large variables together into manageable components. The 20 judgmental statements, used in study 1, were designed to seek participants' attitudes towards how much they agree or disagree with the 20 statements on the 7-point Likert scale. PCA is used interchangeably with factor analysis (McKenzie, 2006; Zhang, 2010), being a statistical technique used in all scientific disciplines to reduce large data dimensions. PCA was applied in language attitude research to transform extensive data into a manageable size, retaining most of the original data set (Akay & Toraman, 2015; Dunteman, 1989; McKenzie, 2006; Schilling, 2013; Wang, 2017). There are several goals of PCA: to extract the most crucial information from the data table; compress the size of the data set by keeping only this important information; simplify the description of the data set; and analyse the structure of the observations and the variables (Abdi & Williams, 2010, p. 434). In the next section, I explain how and why PCA was performed.

5.2.1 Analysing attitudinal statements: Principal Component Analysis (PCA)

This section attempts to answer the second question of study one.

2. What social variables (if any) seem to be significant in predicting Jordanians' attitudes towards Standard Arabic and Jordanian Colloquial varieties?

In section two of the survey, 862 responses evaluate 20 statements in the attitude section. It was necessary to reduce the 20 statements into a more manageable number of components for a specific analysis and make data easier to interpret. New factors become more practical to analyse (Schilling, 2013; Zhang, 2010). Thus, I used the PCA or factor analysis, a method

employed to explore which variables group together (McKenzie, 2006), and which statements cluster together (see Chapter 5.1.6 in Revelle, 2018; Wang, 2017). A large number of participations improve the validity of the statistical analysis. Higher scores neither represent negative responses nor low scores represent positive responses. It depends totally on the statement, whether it needs a positive or negative response. For example, a statement that says, “I am proud of my dialect” scored the highest on strongly agree and showed positivity, while a statement, “It is accepted to hear an urban dialect in the news or political speeches” scored strongly disagree; however, it showed positivity as well.

Before conducting PCA, the original data set was analysed in R (R Core Team, 2018) to ensure whether the sample size is appropriate for PCA. To do this, a correlation matrix was produced from the questionnaire’s data to make sure all the variables correlated with each other. Bartlett’s test was run on the data using the cortest.bartlett() function from the psych package to check if correlations between the variables were large enough for PCA (Revelle, 2018). The result of Bartlett’s test of sphericity suggested there was significance 3507.743, $p<0.0$, so it was appropriate to use PCA.

Moreover, the Kaiser-Meyer Olkin (KMO) was run to measure the sample size’s suitability before performing the PCA. The KMO test value was 0.76, meaning it is appropriate (Field, Miles, & Field, 2012). These values show that the correlation between items is appropriately large for PCA. No questions have been removed as all the statements have correlations with other variables.

PCA was run using the principal () function in R’s psych package (Revelle, 2018). The oblique rotation technique (oblimin) was used to have a clear picture of the variables’ loading on each factor. The number of components was determined by parallel analysis using the fa.parallel() function (Revelle, 2018). Figure 5.2 is a scree plot, which shows factor loadings on the y-axis, and the x-axis shows the component number. “The cut-off point for selecting factors should be at the point of inflection of this curve; the point of inflection is where the slope of the line changes dramatically” (Field et al., 2012). The sharp break, indicated by the red line in the scree plot in figure 5.2, suggests four factors (Revelle, 2019). Other statistical criteria were applied to determine how many factors to preserve, including parallel analysis, Minimum Average Partial, criterion (MAP), and Very Simple Structure (VSS) (see chapter 5.4 in Revelle, 2018). The results of PCA revealed four factors that can account for 44% of the total variance. The red line was drawn using the following formula:

fa.parallel(q.m, n.obs=862, fm="minres", fa="pc", main="Principal Components", n.iter=19, SMC=FALSE, ylabel="Factor loadings", show.legend=FALSE, sim=TRUE,quant=.95,cor="cor", use="pairwise")

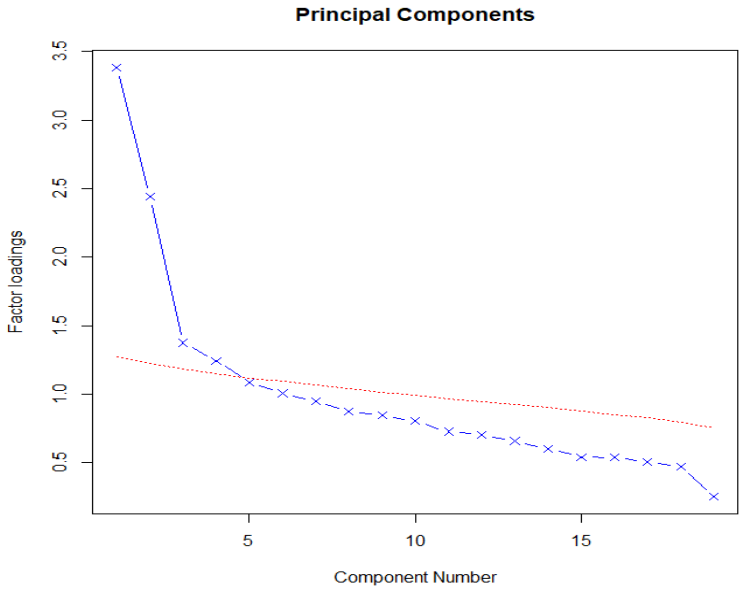

Figure 5.2: Scree plot suggesting number of components

Table 5.6: Four factors revealed by PCA. These highly loading variables indicate how much each statement contributes to each factor (only loadings more than 0.3 are shown).

Table 5.6: Four factors revealed by PCA

Statements	Factors			
	PC1	PC2	PC3	PC4
2	0.68			
11	0.48			
18	0.81			
19	0.79			
1		0.65		
4		0.32		
7		0.47		
12		0.38		
13		0.71		
14		0.65		
20		0.54		
3			0.52	
5			0.40	
15			0.65	

16			0.67	
6				0.69
8				0.45
9				0.58
10				0.61

Table 5.6, displayed above, shows the results of the four factors revealed by PCA. The number of each statement indicates how much each statement can contribute to each factor. These factors or components revealed by PCA can be used to clarify what each factor represents. For example, PC1 seems to relate to prestige, education, and social status. PC2 relates to dialect maintenance, identity and pride in relation to dialect. PC3 relates to the future of spoken and standard varieties, while PC4 relates to social interactions. Statement 17 was removed because it is similar in meaning to statement 10.

Table 5.7: Four principal factors revealed by PCA

Respondent	PC1	PC2	PC3	PC4
1	-0.58093	-0.8783	0.568969	-0.2071
2	-0.95067	-0.8226	-0.99033	-0.82893
3	-1.26003	-0.45078	1.052665	-0.23887
4	-0.53923	1.59046	0.850326	-0.45228
5	1.23058	-0.74399	0.12004	-0.49204
50				
100	0.09416	-0.78727	-0.24995	-0.2174
272	0.429658	1.463464	0.263131	0.486505

Accordingly, the 19 judgment statements condensed to four principal components; by adding the score=TRUE command to the final principal (), then the four principal components were assigned to each respondent as in table 5.7.

PC1: relates to prestige, education, and social status.

PC2: relates to dialect maintenance and shift, identity and proud of own dialect.

PC3: relates to the future of spoken and standard varieties.

PC4: relates to social interactions.

The scores above can be used to assess the relative attitudes in comparison to another: a higher number shows a participant holds more positive attitudes.

5.2.1.1 Attitudes towards judgement statements

In this section, I presented the results of question two, and examine participants' attitudes to the twenty judgment statements using the Likert scale.

Participants were asked to present their level of agreement and disagreement with several attitude statements. This chapter aims to explore the effects of participants' attitudes towards MSA and Jordanian spoken dialects. Participants were asked to indicate their reactions to each statement by selecting a forced single option representing their agreement or disagreement level. Responses are scored differently depending on whether the response needs positive or negative attitudes (Garrett et al., 2003). Factor analysis, which consists of a statistical technique, is then required on such a rating scale to measure if such rating scales can be reduced to fewer variables (Garrett et al., 2003). Applying factor analysis on several attitude statements allows an analyst to cluster statements correlated to one another (Redinger, 2010). For example, I used PCA on the twenty statements, and PCA grouped them into four groups, for example, attitudes towards prestige, education and high status (PC1), attitudes related to maintenance and shift, identity, and own dialect pride (PC2), attitudes related to the future of spoken dialects and the standard variety (PC3), and (PC4) attitudes related to social interactions.

The second section of the questionnaire has focused on participants' attitudes towards MSA and Jordanian spoken dialects concerning social status, identity, understandably and expressiveness of speech, and maintenance and shift. I will not focus in my analysis on maintenance and shift towards MSA and Jordanian spoken dialects. Participants 'attitudes were measured using Likert scale in which responses to the twenty statements are rated on the left side to a full agreement to full disagreement on the right side, and then responses are converted into numerical values. In the present study, a principal

component analysis, a form of factor analysis, was employed to condense the twenty statements into a smaller number of dimensions.

5.2.1.2 Participant's responses to judgment statements

Participants expressed their attitudes towards judgment statements. They were asked to place their attitudes on a Likert scale of 1- Strongly agree to 7- Strongly disagree. This technique is adopted from Sawaie (1987).

PC1 consists of 4 statements investigating participants' attitudes towards the urban dialect, which relates to dialect prestige, education, and social status. For example:

A- **To what extent do you agree or disagree with the following statements?**

1- Strongly agree 4- Not necessarily 7- Strongly disagree.

1-Talking in an urban dialect means a speaker is educated.

2- It is accepted to hear an urban dialect in news or political speeches.

3- The urban /ʔ/ sound/or dialect is associated with modernization, prestige and civilization

4- The urban dialect is endowed with high status.

PCA grouped these statements to reveal participants' attitudes towards the importance of urban dialect use from different perspectives While statements A1.3 and 4 focus on the role of the urban dialect in education, prestige and high status, statement A2 pays attention to whether it is acceptable to use the urban dialect in the news or political speeches. It is not necessarily that a 1 value is positive, and a 7 value is negative. It is all about the statement itself, whether it needs a 1 or 7 response. Participants' ratings vary and are dependent on their attitudes.

The 3448 observations from 862 participants were hand-fitted into a linear mixed-effect model over the entire data using the *lmer* function in the *lme4* package in R (Bates, Mächler, et al., 2015, p. 44), with PC1 questions as dependent variables. First, we started with a full raw model by examining the effect of all fixed variables, including sex, age groups, own dialect and education, and two random intercepts for partID and question. All possible two-way interactions between owndia (this means participant's own dialect is either rural, Bedouin or urban), sex, age-group, and education have been tested and only significant

ones were retained. The models were compared via ANOVA to determine the best model to keep, and those with lower AIC scores if they show significance were kept; otherwise, the larger model was retained. The final-fitted model includes fixed effects that significantly improved the model is found in table 5.8.

Table 5.8: Fixed effects model for the PC1 in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	5.5397	0.24845	550.4225	22.297	< 2e-16	***
owndiaRural	-0.68337	0.25836	850.9998	-2.645	0.00832	**
owndiaUrban	-1.06135	0.25229	850.9998	-4.207	2.86E-05	***
Sexmale	-1.43889	0.32186	850.9998	-4.471	8.86E-06	***
agegroup25-30	-0.11443	0.10939	850.9999	-1.046	0.29582	
agegroup31-35	0.12087	0.14575	850.9999	0.829	0.40717	
agegroup36-40	0.14849	0.14309	850.9999	1.038	0.29972	
agegroup41-45	0.29745	0.16795	850.9999	1.771	0.07691	.
agegroup46+	-0.01314	0.2005	850.9999	-0.066	0.94777	
owndiaRural:sexmale	0.99544	0.3423	850.9998	2.908	0.00373	**
owndiaUrban:sexmale	1.12281	0.34607	850.9998	3.244	0.00122	**

The best-fitted model is shown in table 5.9. The findings presented in table 5.9 suggest that the coefficient of owndiaRural, owndiaUrban and sexmale are significant with p values of 0.00832, 2.86E-05, and 8.86E-06, respectively and indicate a negative relationship. There was no significant effect for age groups, but age-group 41-45 is approaching significance with a p-value of 0.07691.

The interaction of owndiaRural, owndiaUrban and sexmale is also significant (p = 0.00373), (p = 0.00122). The negative value in the 'Estimate' column for sexmale (P = -1.43889) indicates that male participants are less likely to disagree with PC1 questions than female participants. The positive value in the 'Estimate' column for owndiaRural: sexmale (p = 0.99544) indicates that, overall, the higher the number you score, the more strongly you disagree with PC1 statements which is associated with prestige, education, and high status.

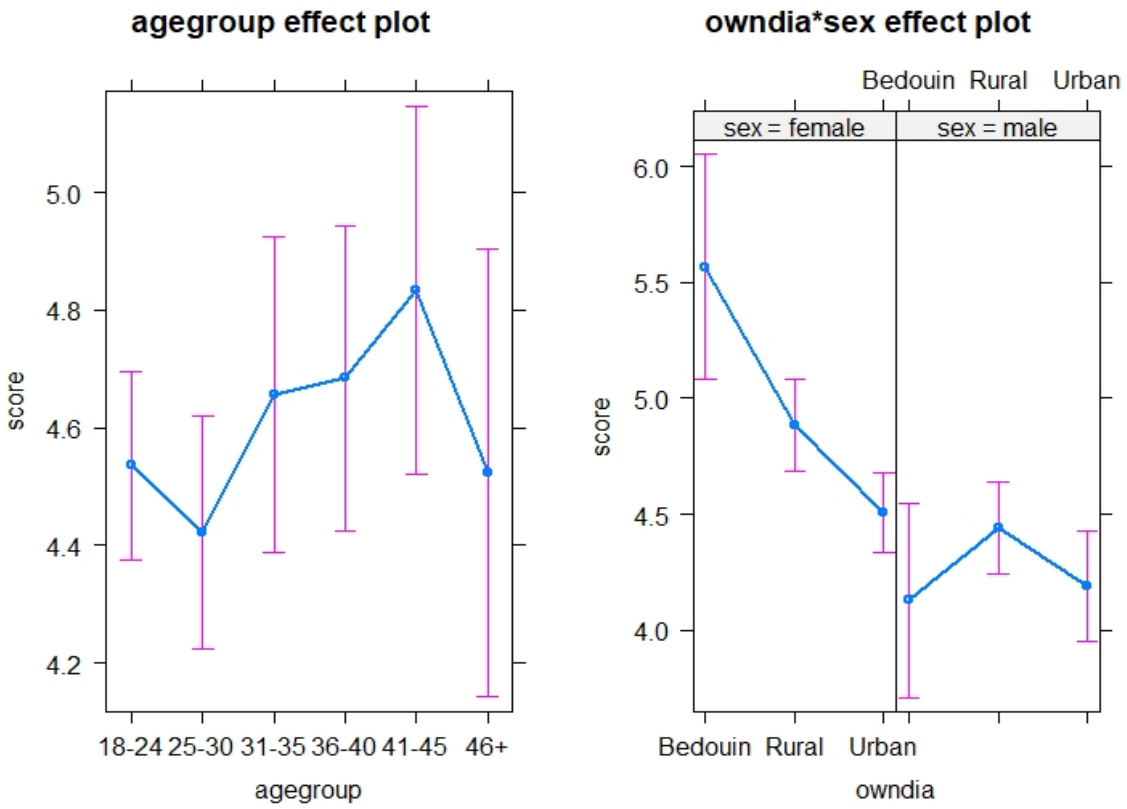

Figure 5.3: The effect of own dialect, age group and sex on PC1 evaluation

Figure 5.3 presents the model. The plot on the left shows the relationship between age-groups and scores for PC1 questions. Older age participants, mainly 41-45, exhibit a higher disagreement over time than other age groups, in that the urban variety is associated with prestige, education, and high status. The plot on the right shows the relationship between gender and dialects. It indicates that male participants, overall, disagree with PC1 questions in comparison with female participants. Overall, rural male participants exhibit more disagreement than urban and Bedouin participants do, with respect to the urban variety.

Next, this assessment was completed by investigating participants' attitudes towards PC2, which relates to maintenance and shift, identity, and own dialect proudness. PC2 consisted of 7 statements and were grouped. The same question and the same Likert scale were used.

B- **To what extent do you agree or disagree with the following statements?**

1- Strongly agree 4- Not necessarily 7- Strongly disagree.

1- My dialect represents my identity.

2- My dialect is the nearest to the Arabic-Fusha.

3- I use my dialect to maintain social conformity.

4- Men maintain their own dialects more often than women do.

5- I am proud of my dialect.

6- I want my children to become familiar with their parents' dialects.

7- Rural dialect is endowed with clarity and eloquence.

The statements above allowed us to investigate participants' attitudes towards the importance of maintaining their spoken dialects from different perspectives. For instance, statement B4 shows that men more often than women maintain using their speech dialects' variants. Figure 4 shows that participants' responses to how much they are proud of their dialect. The responses tend to be at an agreement value, and the range is vast to the disagreement values. It suggests that there is a positive relationship with speakers' dialects.

For the analysis of PC2 statements, the 6034 observations were hand-fitted into linear mixed-effect model over the entire data using the *lmer* function in the *lme4* package in R (Bates, Mächler, et al., 2015). I started with a model with all fixed variables and included partID and question as random intercepts. The dependent variables were PC2 questions associated with maintenance and shift, identity, and own dialect proudness. I tested the effect of participants' sex, age, own dialect and education. Moreover, the interactions between them have also been tested. Fixed effects or interactions which failed to reach significance were removed, and the model was re-run, and only significant effects retained. The models were compared via ANOVA, and the model with a lower AIC score, if showing significance, was kept; otherwise, the larger model was kept as a better model. Table 5.9 presents the significant fixed effects and their interactions.

Table 5.9: Fixed effects model for the PC2 in the full data set.

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	2.32461	0.31037	9.53637	7.490	2.72E-05	***
owndiaRural	0.30584	0.15060	851	2.031	0.0426	*
owndiaUrban	0.65503	0.14707	851	4.454	9.55E-06	***

Sexmale	0.14692	0.18762	851	0.783	0.4338	
agegroup25-30	-0.05789	0.06376	850.9999	-0.908	0.3642	
agegroup31-35	0.10135	0.08496	850.9999	1.193	0.2332	
agegroup36-40	0.01505	0.08341	850.9999	0.180	0.8568	
agegroup41-45	-0.15806	0.09790	850.9999	-1.614	0.1068	
agegroup46+	-0.12340	0.11688	850.9999	-1.056	0.2914	
owndiaRural:sexmale	-0.47278	0.19954	851	-2.369	0.0180	*
owndiaUrban:sexmale	-0.34364	0.20173	851	-1.703	0.0888	.

Table 5.9 presents the results of the regression model. The coefficient of owndiaRural and owndiaUrban are positively significant (P = 0.0426), (P = 9.55E-06), respectively. It shows that, overall, participants are likely to agree with PC2 statements. There was no statistically significant effect of sexmale. There was a statistically significant interaction between owndiaRural and sexmale (P = 0.0180), indicating negative interaction. However, the interaction of owndiaUrban and sexmale is approaching significant with a p-value (p = 0.0888).

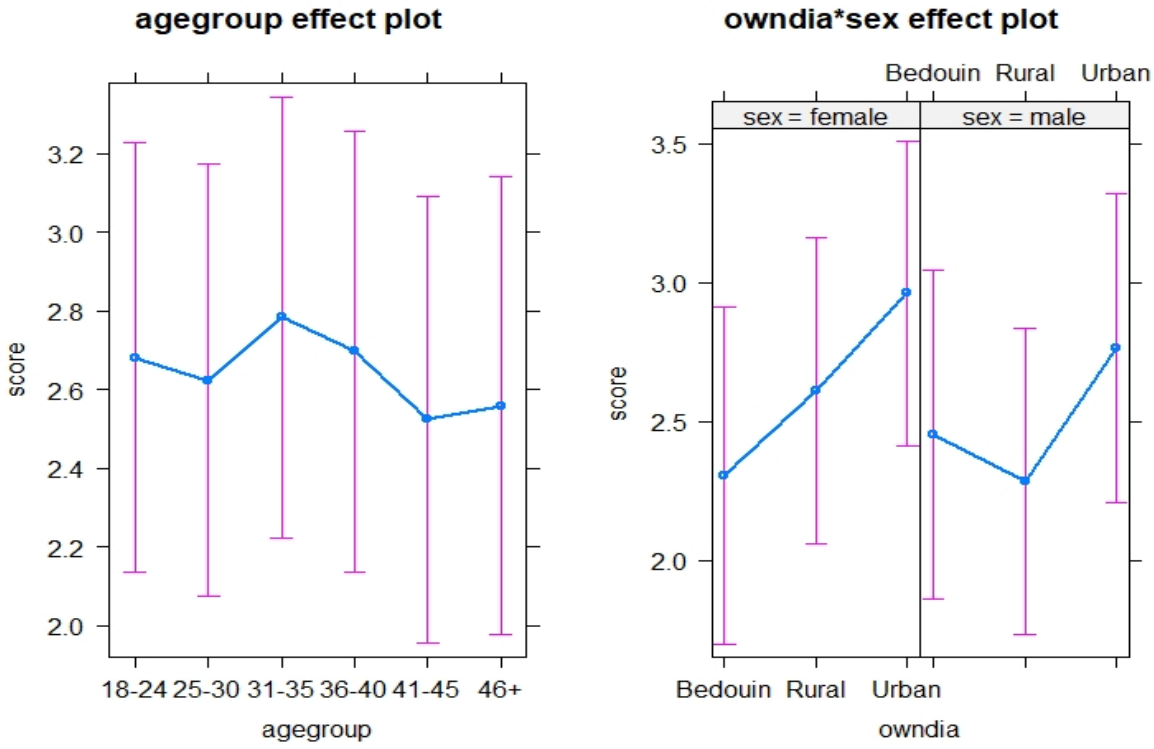

Figure 5.4: The effect of own dialect, age group and sex on PC2 evaluation

Figure 5.4 presents the model. The plot on the left shows participants' attitudes toward different age-groups. Overall, age-groups show steadiness in their judgements towards PC2 statements over time. Participants, significantly 41-45, exhibit a higher agreement over time to PC2 statements than other age groups. The plot on the right shows that rural male participants exhibit a high agreement evaluation to the PC2 statements than urban and Bedouin participants.

Next, participants presented their attitudes towards PC3, which relates to the future of spoken dialects and the standard variety. PC3 consists of 4 statements, and the same question and the same Likert scale were used.

C- **To what extent do you agree or disagree with the following statements?**

1- Strongly agree 4- Not necessarily 7- Strongly disagree.

1- Speakers dissociate themselves from their local dialects when they switch to the urban dialect.

2- My dialect is widely understood among other dialect speakers.

3- Rural and Bedouin dialects will disappear one day.

4- The majority of future generation will not maintain the standard variety in their formal speech.

PCA grouped PC3 statements to look at participants' attitudes towards the complex nature of Jordan's sociolinguistics situation.

The mixed-effects regression model has been hand-fit to the entire model with 3348 observations from 862 participants in R, with PC3 questions associated with the orientation of future spoken dialects. The standard variety served as a dependent variable. I tested sex, age, education, and own dialects as independent variables. Interactions between them were also texted. Two random intercepts included partID and question were tested in the model. Fixed effect factors and interactions which failed to reach significance were eliminated, and the model was re-run, and only significant variables were retained. After that, all models were compared via ANOVA, and those with lower AIC scores showing significance were kept; otherwise, the larger model was kept as a better model.

Table 5.10: Fixed effects model for the PC3 in the full data set.

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	3.39453	0.47257	4.05143	7.183	0.00189	**
owndiaRural	-0.41057	0.18868	851	-2.176	0.02983	*
owndiaUrban	-0.46801	0.18425	851	-2.54	0.01126	*
Sexmale	-0.22769	0.23505	851	-0.969	3.33E-01	
agegroup25-30	0.0452	0.07989	851.0001	0.566	0.57172	
agegroup31-35	0.09498	0.10644	851.0001	0.892	0.37249	
agegroup36-40	0.26916	0.1045	851.0001	2.576	0.01017	*
agegroup41-45	0.32279	0.12265	851.0001	2.632	0.00865	**
agegroup46+	0.16348	0.14642	851.0001	1.116	0.26453	
owndiaRural:sexmale	0.24118	0.24998	851	0.965	0.33494	
owndiaUrban:sexmale	0.24732	0.25274	851	0.979	0.32808	

Table 5.10 presents the results of the model. There was no statistically significant effect of sexmale, but there were statistically significant effects of owndiaRural (P = 0.02983) and owndiaUrban (P = 0.01126). On the other hand, there were statistically significant effects of age-group 36-40 (P = 0.01017) and age-group 41-45 (P = 0.00865). There were no significant interactions of owndiaRural and owndiaUrban with sexmale.

The positive value in table 5.10 in the ‘estimate’ column indicates that overall participants favoured the PC3 statements. The negative value in the ‘Estimate’ column shows that, overall, participants were more negative to PC3 statements except the owndiaBedouin who show positive value to PC3 statements. This is a small but statistically significant effect. Results for each variable are displayed below in Figure 5.5.

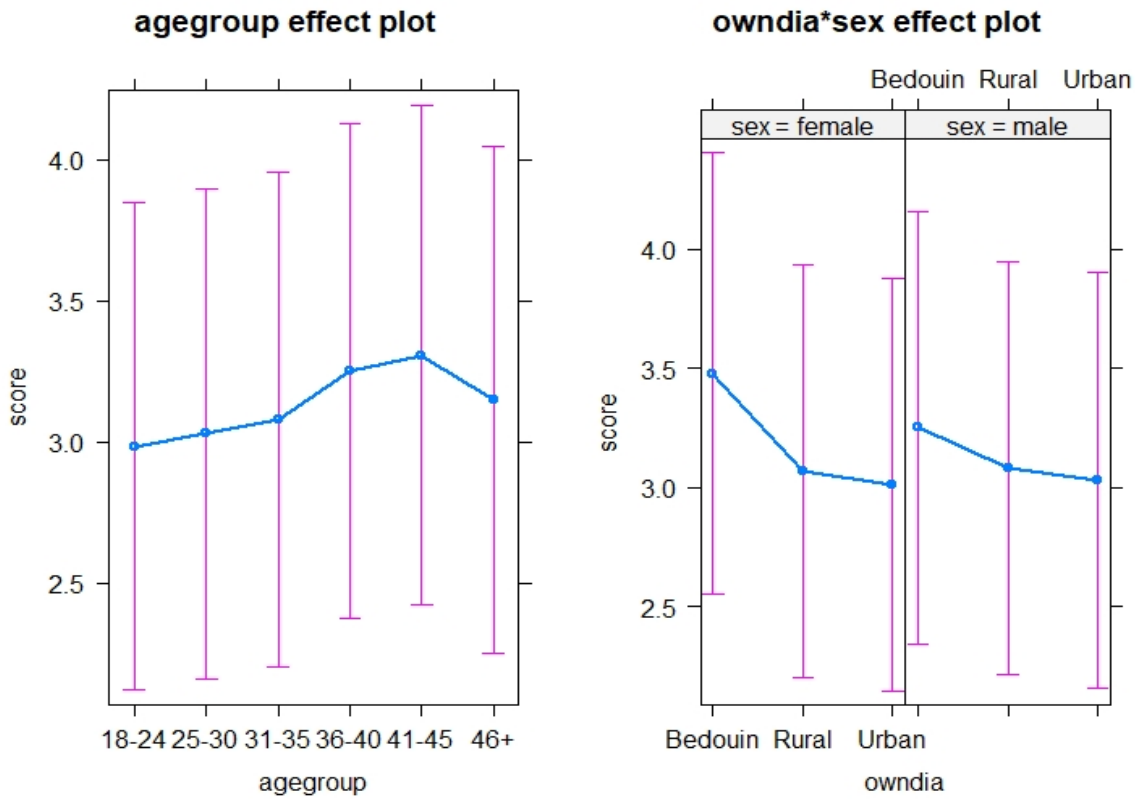

Figure 5.5: The effect of own dialect, age group and sex on PC3 evaluation

Figure 5.5 plots the relationship between score values and social variables. The left model indicates that, overall, age-groups showed positive constancy ratings towards PC3 statements overtime. The right model clearly shows that male and female participants share the same rating towards PC3 statements over their dialects. This indicates that female and male participants overall show positivity towards PC3 statements.

Finally, participants implemented their attitudes towards PC4, which relates to social interactions. PC4 consists of 4 statements.

D- **To what extent do you agree or disagree with the following statements?**

1- Strongly agree 4- Not necessarily 7- Strongly disagree.

1- I change my own dialect to a more prestigious dialect among friends.

2- There is no need to maintain my own dialect.

3- My dialect is underestimated among friends.

4- I use different dialects with different people.

PCA grouped these statements due to their focus on participants' attitudes towards social interactions with other local varieties and how these local dialects are perceived.

The 3448 observations from 862 participants were hand-fitted into a mixed-effects regression model in R with PC4 statements associated with social interactions served as dependent variables. We tested sex, age, education, and own dialects as independent variables. Interactions between them were also texted. Two random intercepts included partID and question were tested in the model. Fixed effect factors and interactions which failed to reach significance were eliminated and re-run the model, and only significant variables were retained. All models were compared via ANOVA, and those with lower AIC scores were kept.

Table 5.11: Fixed effects model for the PC4 in the full data set.

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	5.28905	0.40185	6.50298	13.162	6.28E-06	***
owndiaRural	-0.42934	0.24276	851.0001	-1.769	0.0773	.
owndiaUrban	-0.27762	0.23705	851.0001	-1.171	2.42E-01	
Sexmale	-0.2744	0.30242	851.0001	-0.907	3.65E-01	
agegroup25-30	-0.14764	0.10278	851	-1.436	0.1512	
agegroup31-35	-0.09208	0.13695	851	-0.672	0.5015	
agegroup36-40	-0.31561	0.13445	851	-2.347	0.0191	*
agegroup41-45	-0.1625	0.15781	851	-1.03	0.3034	
agegroup46+	-0.54078	0.18839	851	-2.871	0.0042	**
owndiaRural:sexmale	0.12063	0.32163	851.0001	0.375	0.7077	
owndiaUrban:sexmale	-0.34146	0.32517	851.0001	-1.05	0.2940	

Table 5.11 presented the results pf the model. There were no statistically significant effects of sexmale, owndiaRural, but owndiaUrban is approaching significant with a p-value of 0.0773.0. However, there were statistically significant effects of age group 36-40 (P = 0.0191) and age group 46+ (P = 0.0042). There were no statistically significant interactions between owndiaRural and sexmale, and between owndiaUrban and sexmale. The negative value in the 'Estimate' column for the age group 46+ shows that participants of this age group are more likely to be less positive to PC4 questions than other age groups. Results are also displayed in Figure 5.6.

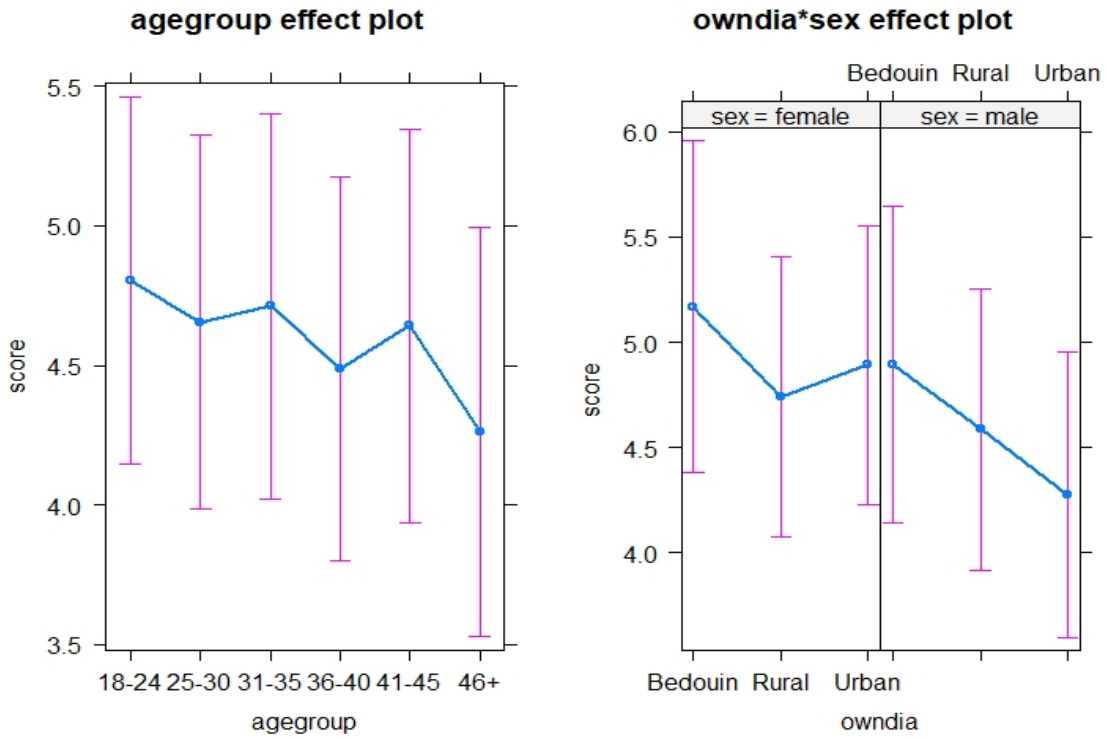

Figure 5.6: The effect of own dialect, age group and sex on PC4 evaluation

Figure 5.6 presents plots showing the relationship between scores and social variables. Overall, the left plot shows that different age groups have had a negative tendency to PC4 statements with older age groups with slightly different attitudes over time. The right model shows that the female participants had more disagreement ratings to PC4 statements than the male participants.

5.3 Research Question 2 discussion

The second research question examines the social variables which seem to be significant in examining participants' agreement and disagreement with the judgemental statements.

The statistical analysis of participants' responses to several attitude statements included in the questionnaire has provided highly varied language attitudes in Jordan. Participants have exhibited a more positive attitude towards Jordanian local spoken dialects except for the urban dialect on PC1 prestige statements. This section investigateed how Jordanian participants presented their responses on statements related to Jordanian dialects on the extent to which they agree or disagree with each statement and goes on to compare findings concerning other studies in the same field. By analysing participants' agreement, neutrality, and disagreement with each judgement statement, I could discern the differences

in their responses. In this study, I collected participants' direct attitudes by placing someone's measurement of attitudes on a straight line that can be described positively, neutrally, or negatively. The judgement statements allow participants to mark to what extent they agree or disagree with each judgmental statement. The use of the Likert scale on judgment statements was about participants' eliciting attitudes towards dialects associated with PC1, PC2, PC3, and PC4, as mentioned above. For example, 'the urban dialect is endowed with high status' is related to prestige, education and social class (PC1). Also 'my dialect represents my identity' is related to participants' attitudes and identity and pride (PC2) like (see appendix A for the full version of the survey). The second section of the questionnaire contained twenty statements, and PCA clustered them into four main groups, as shown above.

PC1 statements are related to prestige, education, and social status attitudes towards the urban dialect spoken in Jordan. Several linguistic status studies have described dialects using terms like prestige, stigmatised and most/least preferred (Abd-el-Jawad, 1986; Hussein, 1980; Ibrahim, 1986; Sakarna, 2005). Evaluations of PC1 showed that the urban dialect, though it was rated the prestigious dialect in Jordan, it was not necessarily associated with education, modernisation and/or endowed with high status. Several studies, on one hand, agree that the urban Jordanian dialect is associated with prestige, education, and modernity, e.g., Abd-el-Jawad (1986) has pointed out that the Jordanian urban dialect is concomitant with prestige modern, civilization, and endowed with superior status. Suleiman (1985) and Yasir (2004; as cited in Al-Raba'a, 2016, p. 83) confirm that the position of a city as a centre of communication, commerce and education elevates the urban dialect's social status for several reasons, directly associated with education (as urban speakers are more educated compared to other people or speakers who live in the villages); a finding which PC1 opposes. On the other hand, Hussein and El-Ali (1989) argue that Arab children are born speaking the colloquial varieties regardless of their parents' social status and education level, but they experience limited exposure to MSA except through religion and listening to radio or TV, at least until they start school. Also, the Bedouin variety enjoyed high status centuries ago, and was the only dialect that paralleled classical Arabic. In their study, Hussein and El-Ali (1989) posed a question to participants to rate MSA and the three main Jordanian spoken dialects in terms of social status. Results showed that the MSA was rated the highest, and the urban dialect was rated the least.

PC2 concerning identity and proudness of Jordanian spoken dialects were evaluated differently. For example, "my dialect represents my identity" was perceived by most

participants that the spoken dialect is a marker of national identity. Another statement, “Rural dialect is endowed with clarity and eloquence” was rated relatively positive. Participants whose dialect is rural or Bedouin associated the rural dialect with clarity and eloquence, while the urban participants remain neutral. Under the same category, the statement, “My dialect is the nearest to Arabic-Fusha” was rated positively for participants whose dialect is rural or Bedouin but neutral for urban participants. These findings are compatible with (Al-Sughayer 1990, as cited in Sakarna, 2005, p. 527) that ‘the rural dialect is considered Fusha and the rural dialect is the dialect of clarity eloquence’. Sakarna (2005, p. 538) was sceptical of Al-Sughayer’s claim (1990) of associating the rural dialect with “clarity of eloquence and fusha” since the Standard Arabic spoken outside the Arabic Peninsula is not recorded and unknown. He did not explain what he understands by Fusha, ‘either in classical time, or in modern time, since it has not been well researched and no modern linguistic theories tell us anything about it, or even how to use it to measure the linguistic status of a dialect’. However, it seems that Al-Sughayer (1990) has built up his claim towards Ferguson (1959b, p. 379), that the Arabic speaker, “regards his dialect as the nearest to classical, the easiest to learn, and the most widely understood of the colloquial dialects”. Participants from different social backgrounds exhibited attitudes that were proud of their dialects, believing them representative of their identities. For example, certain linguistic forms, whether stigmatised or not, form identity, pride, origin, nationalism and increase the level of identification (Abd-el-Jawad, 1986). Furthermore, participants agreed that men are more preservative in maintaining their dialects in their daily speech at home, with friends, or in public, more often than women do.

Several studies have shown that women, regardless of their socioeconomic class or level of education, tend the use the prestige of spoken dialect over other varieties (Abd-El-Jawad, 1987; Habib, 2005; Ibrahim, 1986; Kojak, 1983; Schmidt, 1986). Schmidt (1986), concerning Q-variable, which was differentiated by sex, has pointed out that upper and working-class males in Cairo use uvular /q/ more frequently than university women, who prefer the glottal stop /ʔ/ over the /q/ variable. Habib (2005) found that urban Himsi speakers use the glottal stop /ʔ/, and rural Himsi speakers use the voiceless uvular stop /q/ sound stigmatised in the city everyday speech. She emphasizes that educated Himsi women are more inclined to use the prestige /ʔ/ variant than educated men. Abd-El-Jawad (1987) also emphasised sex differentiation in the Arab world where Arab women do not use the standard variants as frequently as men do.

PC3 investigated participants' attitudes about the future of their dialect and whether they will maintain their standard variety in their formal speech. Meanwhile, some participants somewhat avoid their dialect or stigmatized features and replace them with standard features when communicating with urban speakers. For example, women whose mother dialect is not urban tend to adopt the urban variant /ʔ/ at the expense of their dialect variants; however, local urban speakers do not (Abd-el-Jawad, 1986). The majority of different social factors were neutral, leaning slightly towards disagree, but many participants agreed that rural and Bedouin dialects are disappearing. There is a broad consensus among the respondents that future generations would not maintain or use the standard variety in formal speech. This is because of the prevalence of technology, lack of communication in the Standard Arabic, and the superiority of the local dialects over the Standard one. Based on the data of this study, I partially agree and disagree with this statement. First of all, the standard variety is only taught and learned at school and could be considered textbook language. The proper written form can be considered as standard variety, and it is the most intelligible variety. PC4 relates to social interactions and how participants perceive their dialects socially. Participants' attitudes towards PC4 were not the same. For example, some statements, such as, "I change my dialect to a more prestigious dialect among friends", and "I use different dialects with different people" were generally perceived as neutral by participants. Whereas "There is no need to maintain my dialect", and "My dialect is underestimated among friends", were perceived significantly negative by participants. A negative response sometimes means participants reject the idea that their dialect is not being respected or appreciated as each participant assumes their dialect is the best, and even though it is stigmatized speakers are still proud of it. Urbanizing local dialects for younger rural and Bedouin speakers eliminates their stigmatized local identity features (Abd-el-Jawad, 1986). Al-Raba'a (2016) showed that younger rural speakers appeared to value the urban variety more than their rural variety.

Accordingly, in a summary of section two, I have discussed and presented the results of the participants' agreement and disagreement towards judgement statements. This section explained in detail how the PCA has been used and the aim of using PCA. The data of section two indicates that the sound change is not always understood, and speculate some features are perceived as a prestige form in non-standard varieties. For example, I speculate or imagine the sound /ʔ/ is prestigious in casual speech but is not accepted in some formal speech. The last section presented and discussed participants' attitudes towards specific traits in the 17 Arabic varieties in terms of status and solidarity.

5.4 Participants evaluation: all traits.

The two sections above discussed the research methods employed in this study and why these were selected. Results of section one and two were discussed. Section three is slightly different from the above two sections. I present the results of question three, which is, "What language attitudes do Jordanian people hold towards Arabic varieties in terms of status and solidarity"? Question three of the research related to status and solidarity dimensions using the 7-point slider scale, where 1 means the least and 7 the most. Results are presented in tables and figures for the easiness of interpretation.

Question three looks at participants' attitudes towards Arab varieties in terms of status and solidarity.

Six personality characteristics (see tables and figures below) were chosen for section three of the survey, which investigated participants' attitudes towards some Arabic varieties in terms of solidarity (social, pleasant, tough) and status (understandable, power, and wealth). On the 7-point slider scale, participants were asked to present their rating electronically towards MSA, colloquial Jordanian dialects, Palestinian Arabic, Saudi Arabic, Jeddah dialect, Kuwait Arabic, UAE Arabic, Iraqi Arabic, Egyptian Arabic, Sa'adi Egyptian dialect, Lebanese Arabic, Syrian Arabic, Yemeni Arabic, Moroccan Arabic, and Sudanese Arabic varieties. A question was posed to participants, as shown in figure 5.7, "How social is each language variety?" MSA Arabic variety is selected as it is a variety that other vernacular varieties are being compared to. Jordanian local dialects were selected to investigate participants' attitudes towards their dialects and other Arabic varieties. The reason for selecting other Arabic varieties is to investigate Jordanian participants' attitudes towards them. For example, if you like a variety, you likely rate it higher, and the opposite is correct.

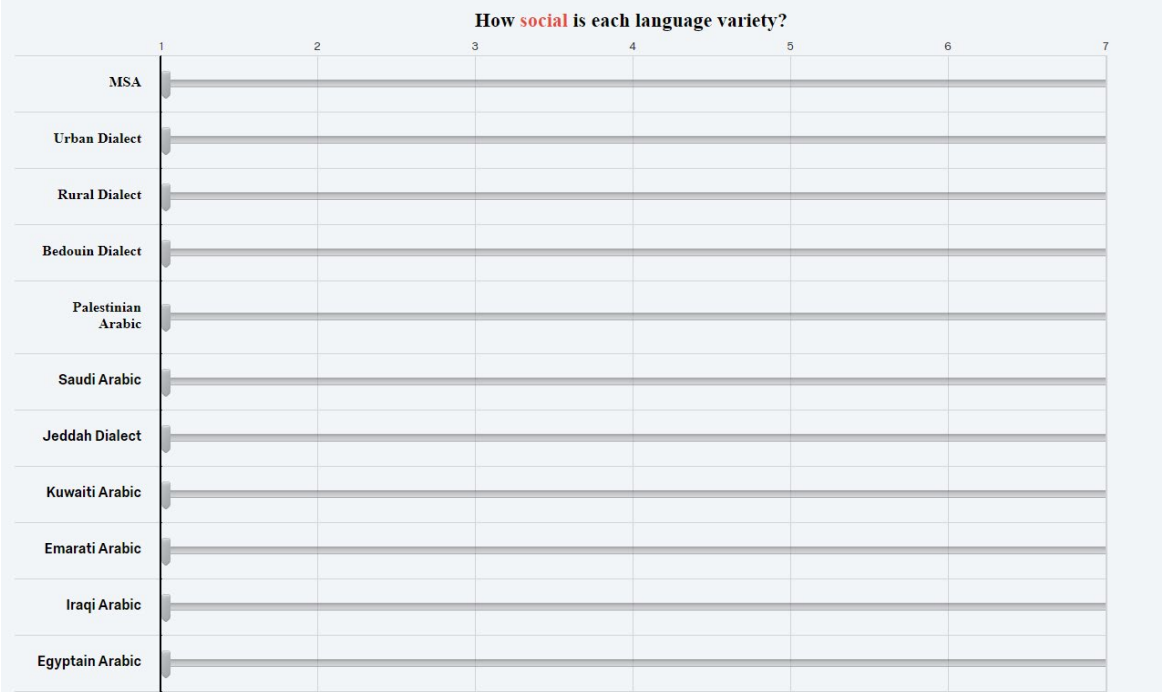

Figure 5.7: Sample of questions to the participants.

Some traits were judged positively while others were judged less positively, depending only on how much each language variety or dialect has been rated. For example, the urban dialect was rated the lowest on the tough feature; this rating is perceived somewhat positively by urban speakers and negative by rural or Bedouin speakers (see Al-Raba'a, 2016). It should be noted that some differences are significant while others are not. What is interesting is that when the overall evaluations of the participants of standard variety and non-standard varieties of Arabic are compared, a significant preference was towards both standard and nonstandard varieties. Some findings that I detailed in this section are intriguing.

A box plot is often used in explanatory data analysis to display numerical data distribution and skewness. Boxplots have five-sets of data, including the minimum (called whisker), first or lower quartile (25% of scores fall below the lower quartile value), median (the middle values of each group and divides the boxplot into two parts by black think line), third or upper quartile value (25% of the data represent this value), and maximum (whisker). Whiskers (the upper and the lower represent scores outside the square box, representing 25% each). A short boxplot suggests consistent agreement around the centre values, while a tall boxplot suggests different opinions and has more variable data. The boxplot distribution is like histograms that tell us whether the distribution is symmetrical or skewed. Symmetrical means the whiskers on either side of the square box have the same length, whereas skewed means the whisker on one side of the box is longer than another, which shows the skewed

distribution. The outlier is a data point located outside the whiskers (Field, 2009; McGill et al., 1978).

Boxplots tell us about the variation level, for example, how much is occurring in each boxplot, from where it starts to where it ends in relation to whiskers. 50% of the data starts from the square box representing the spread of the middle data. The thick line in the boxplot represents the median. If the boxplot is symmetric, it is in the middle of the square boxplot. If the median moves over to the right, it is skewed to the left, and if the median line moves over to the left, it is skewed to the right. If the whisker is long, this means there is a more significant variation, whether towards agreement or less agreement.

In the boxplots below, the focus was on the high scores and low scores. All the survey questions followed the same structure style, as can be seen in figure 5.7. Figures 5.8, 5.9, and 5.10 show the solidarity ratings, whereas Figures 5.11, 5.12, and 5.13 show the status ratings. These figures are showing in box plots and show mean and range variation in responses towards different traits.

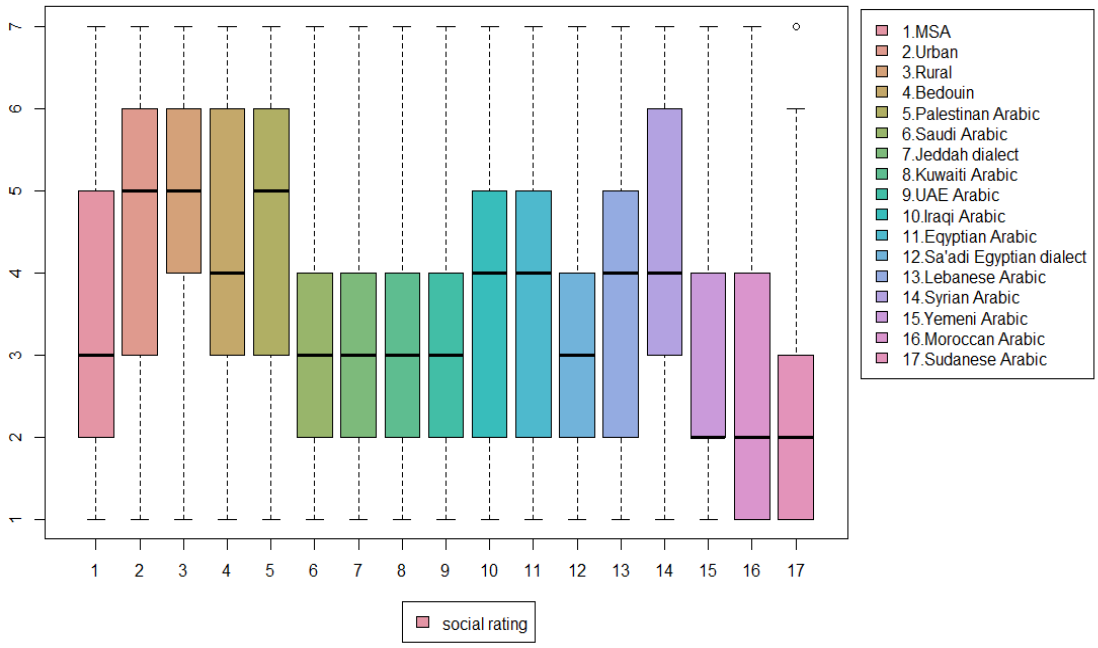

Figure 5.8: Boxplots of responses to social rating

Figure 5.8 shows that participants have different attitudes towards MSA and the selected Arab varieties and dialects. The figure shows how participants rated each language variety and dialect on the social trait. The Jordan Urban, Rural and Palestinian Arab varieties were rated the most social, Syrian and Bedouin Arab varieties with a median (=5). The MSA

variety of the Standard Arabic form was rated low on the social rating but was skewed to the right. The least varieties that were scored the lowest on social are the Yemeni, the Moroccan and the Sudanese varieties.

As previously mentioned, MSA is not socially used for daily conversations and not a variety associated with a particular country or geographical location. Jordan Bedouin dialect, while it is a spoken dialect, was rated lower than urban and rural Jordanian dialects. This could be for several reasons: first, the number of Bedouin participants who participated in the survey is much lower than urban and rural participants, and the Bedouin dialect is spoken in some areas in Jordan, unlike and rural and urban dialects where they are spoken in cities, towns and villages. The Palestinian variety was rated similar to the urban and rural dialects because it is also spoken in Jordan by Jordanian people from Palestinian descendants. The least rating Arabic varieties were Yemeni, Moroccan and Sudanese because the social contact is minimal. Not many of these speaking communities live in Jordan, and so these varieties are somewhat incomprehensible to Jordan people.

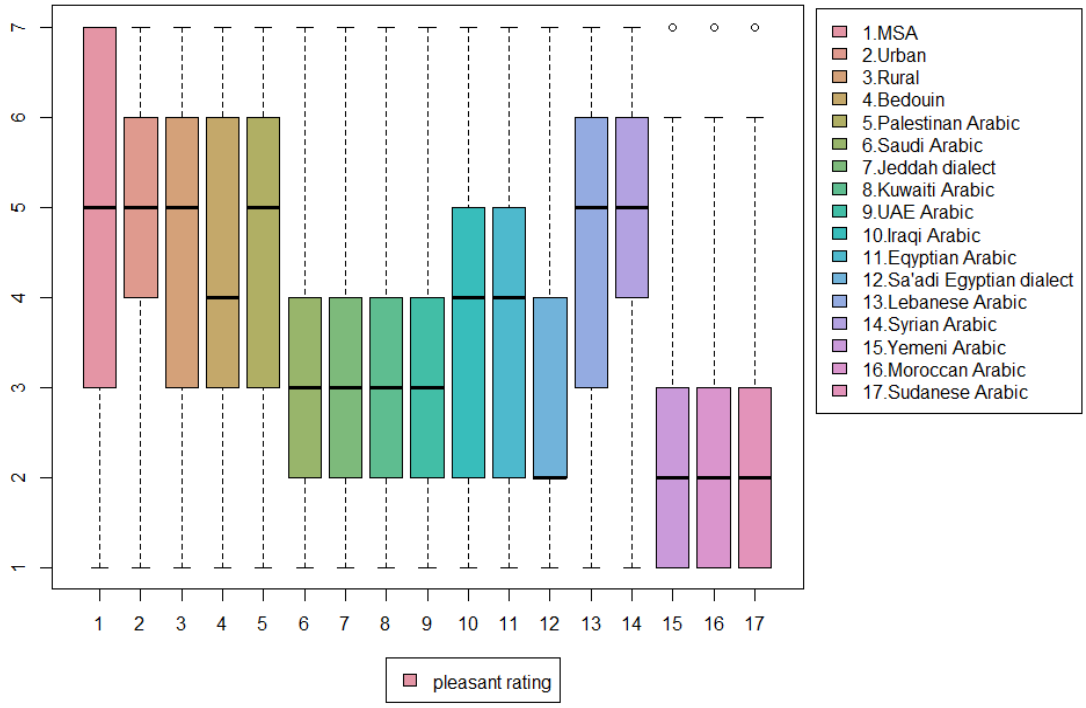

Figure 5.9: Boxplots of responses to pleasant rating

Figure 5.9 shows a variety of different shapes and distributions on pleasantness ratings. Participants differ in their ratings depending on how they perceive each language as a variety; for instance, the MSA variety and the Levant Arabic varieties (including Jordan,

Palestine, Lebanon and Syria) were rated higher than other Arabic varieties with a median (=5). The Jordanian Bedouin dialect, the Iraqi and Egyptian Arab varieties were rated with a median line (=4). Still, a lot of data is spread to the upper and lower whiskers. The gulf Arabic varieties (including Saudi Arabic, Jeddah dialect, Kuwaiti Arabic and UAE Arabic) were rated low on pleasantness rating as the thick median line is (=3). They received the same ratings, and the data is uniformly distributed as the amount of data in each quadrant is equal but having a higher whisker than the lower whisker. The least pleasant varieties were the Sa'adi Egyptian dialect, Yemeni, Moroccan and Sudanese Arabic varieties with a median line is (=2).

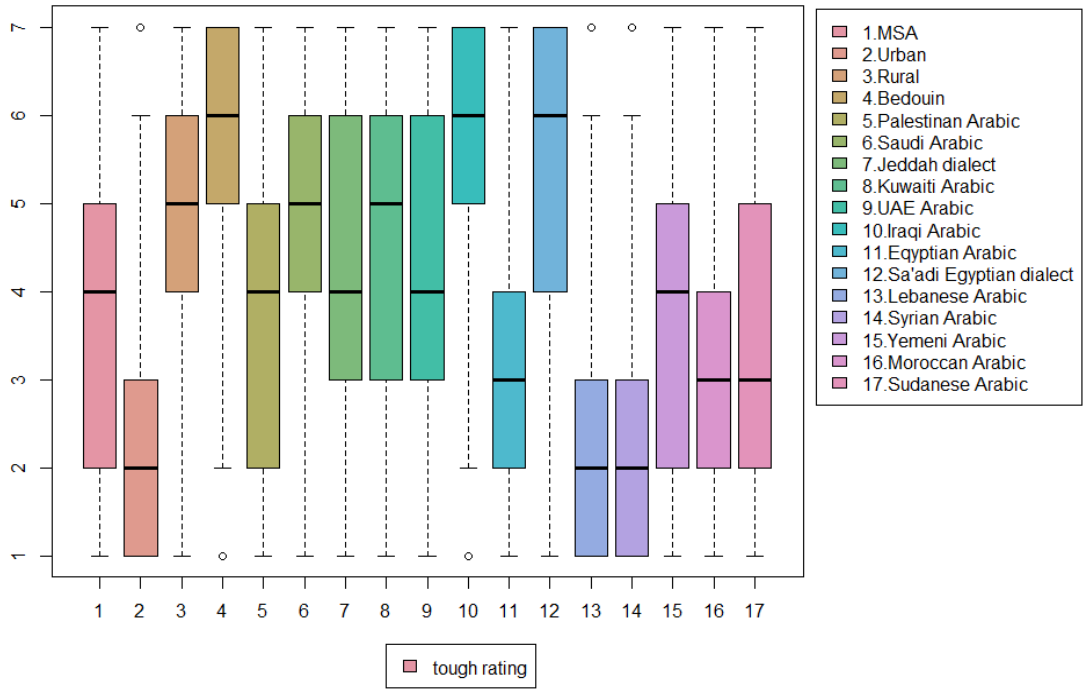

Figure 5.10: Boxplots of responses to tough rating

Figure 5.10 shows that there are variations in ratings among participants concerning toughness ratings. It can be seen that the Jordan Bedouin, the Iraqi and the Sa'adi Egyptian varieties were rated the most toughness varieties (median=6), followed by the Jordan Rural, Saudi and Kuwait Arabic varieties with a median (=5). The least toughness varieties are the Jordan Urban, the Lebanese and the Syrian as the thick median line is (=2). The MSA variety was rated neutral, and lots of data in the smaller areas but skewed to the left.

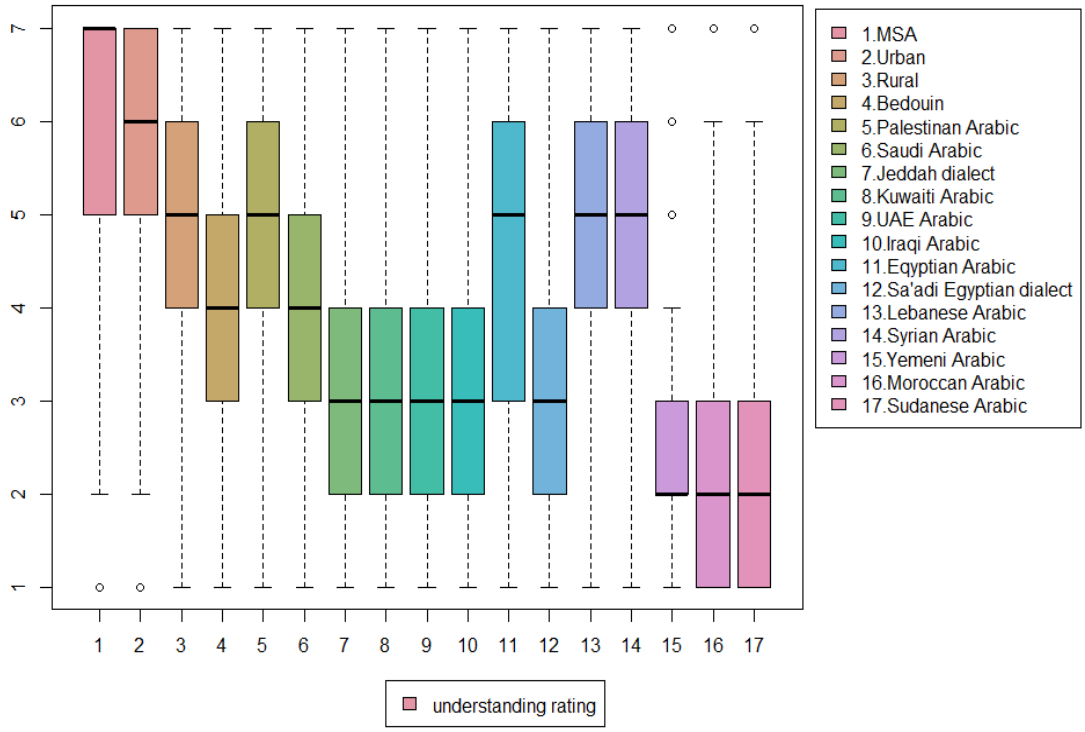

Figure 5.11: Boxplots of responses to understanding rating

Figure 5.11 shows the ratings of participants towards the selected varieties on the understanding trait. As can be seen, the MSA was scored the most and the highest understandable variety (median=7). Next comes the Jordan Urban dialect (median=6). The Jordan Rural, the Palestinian, the Egyptian, the Lebanese and the Syrian Arabic varieties were also rated understandable (median=5). The least understandable Arab varieties were the Yemeni, the Moroccan and the Sudanese varieties, with median ratings (=3).

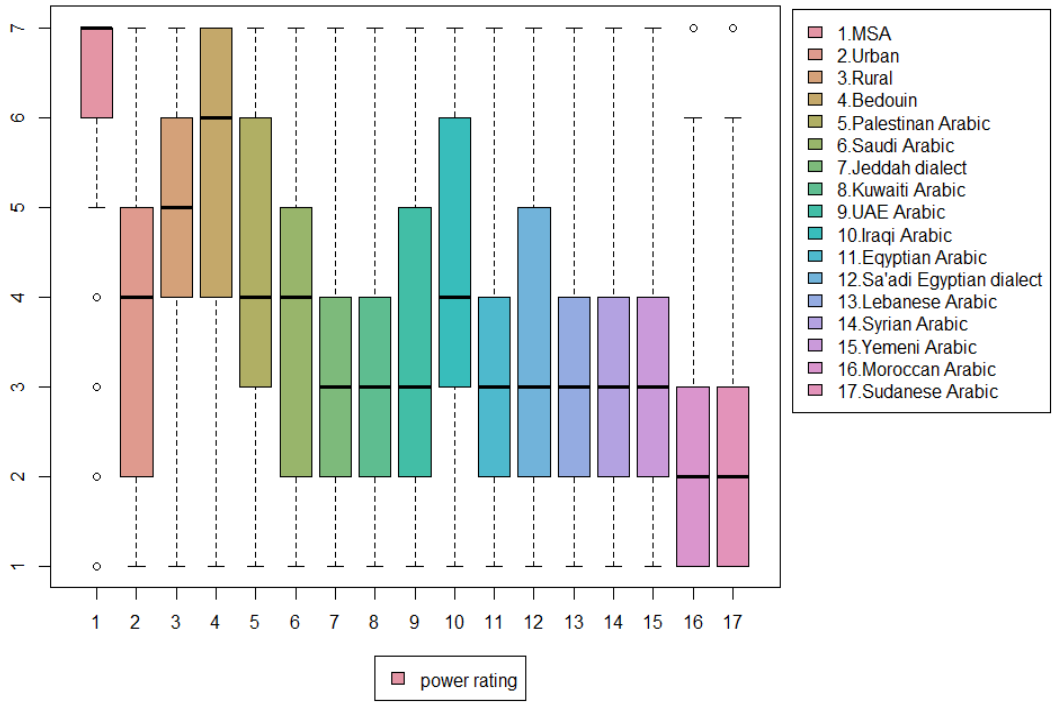

Figure 5.12: Boxplots of responses to power rating

Figure 5.12 shows how participants rated each language dialect and variety on the powerful rating. As can be seen, the MSA variety was rated the most powerful variety with a median (=7) followed by the Jordan Bedouin (median=6) and the Jordan Rural (median=5). The Moroccan and the Sudanese varieties were rated the least on power trait. The rest of the varieties were rated 4 and under but with different density and skewness. Surprisingly, Jordan Urban, though it is a prestige variety, was rated lower than the Jordan Rural and Bedouin dialects with a median line is (=4).

The Jordan Bedouin dialect was rated high on power because it is believed to be more expressive than Jordan Rural and Urban dialects. The MSA variety and Jordan Bedouin dialect are more affluent than other varieties in terms of lexicology and semantics (Hussein & El-Ali, 1989).

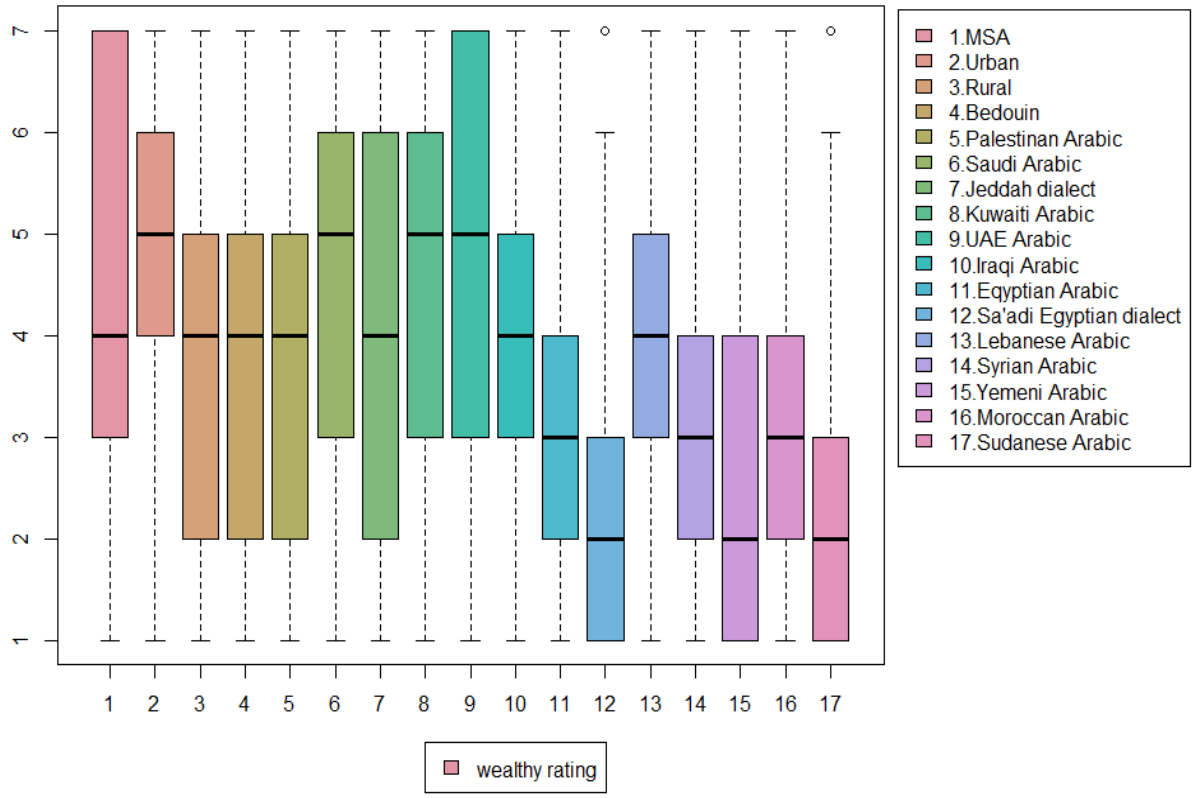

Figure 5.13: Boxplots of responses wealthy rating

Figure 5.13 shows how participants rated each variety for the wealth status trait. As shown in figure 5.17, the Jordan Urban dialect and Arabic varieties, including (Saudi, Kuwaiti and the UAE) were rated the highest on the wealth rating, with a median (=5). The Gulf Arabic varieties are, in terms of lexicology and the way their speakers are usually dressed, considered Bedouin but were rated very high, whereas the Bedouin Jordanian dialect was rated lower than Gulf Arabic. The Jordan Urban speakers and Gulf countries are financially richer than other varieties or dialects. The rest of the language varieties and dialects vary in their ratings based only on their financial situation. For example, Yemeni and Sudanese varieties were rated the lowest because they have a struggling economy, and the Sa'adi Egyptian dialect people who live in upper Egypt are financially less well off than people who live in main cities such as Cairo.

5.5 Research Question 3 discussion

The third research question was to investigate Jordanian participants' attitudes towards the MSA variety, Jordanian dialects and some other Arabic varieties in terms of status and

solidarity. As shown in the analysis section, Jordanian participants varied in their ratings. Before conducting this study, it was expected that the MSA variety and the prestige Jordanian urban dialect would be rated higher on status than solidarity. The rating of MSA and the urban were, however, a surprise.

Participants could provide their judgements based on their knowledge, attitude, and familiarity with each language variety and dialect. Each item was analysed individually. The overall results of section three presented are in two dimensional models of solidarity and status.

5.5.1 The solidarity ratings for each variety of Arabic

Section three attempted to investigate Jordanian participants' perceptions in Jordan and elsewhere towards MSA, Jordan dialects and other Arabic varieties. The solidarity rating of each Arabic variety, namely social, pleasant, and tough, varies significantly. I do not discuss the solidarity ratings of the 17 varieties individually; I group them instead. The urban, rural, Bedouin, Palestinian, Iraqi, Egyptian, Lebanese, and Syrian Arabic varieties were rated positive on social and pleasant (solidarity) traits, above four. While the MSA is not a spoken variety in everyday conversations, it was upgraded to five on a pleasant trait. MSA was rated the highest on pleasant because it is regarded as a classical and modern literary language that educated people are delighted tasting the sweetness of the language. Gulf varieties along with the Sa'adi Egyptian dialect, Yemeni, Sudanese, and Moroccan varieties were rated the least on social and pleasant solidarity, three and lower on the scale, likely because not many speakers of these countries live in Jordan and not many Jordanians, particularly in Jordan, are familiar with them. If they are, they are likely tourists visiting or students studying in Jordan, so sufficient communication in this dialect is lacking. However, on the other hand, and in terms of tough/solidarity, the Bedouin dialect, Iraqi, and Sa'adi Egyptian Arabic were rated the highest, above six, followed by rural Jordanian dialect, in conjunction with Saudi and Kuwaiti Arabic, which were rated five on the scale. This is an indication that speakers of these dialects and varieties sound masculine, or at least speakers of these varieties believe their varieties sound masculine. In another word, they have harsh accents or sound harsher than other Arabic varieties such as urban, Lebanese and Syrian. MSA falls in the middle of the ranking on the toughness trait, along with Palestinian, the Jeddah Saudi dialect, UAE, Yemeni, Egyptian, Sudanese and Moroccan varieties, which were rated between four and three on the scale. However, urban, Lebanese, and Syrian varieties jumped from being very social and very pleasant varieties to being the least on toughness trait, because they sound

feminine or speakers of other varieties believe those varieties sound less masculine or less harsh (Abd-el-Jawad, 1986; Al-Raba'a, 2016; Hachimi, 2015). Yemeni Arabic upgraded from two on social and pleasant traits to four on the toughness trait, while Sudanese and Moroccan varieties have a constant evaluation on solidarity traits two on social and pleasant, to three on toughness traits.

5.5.2 The status rating for each variety of Arabic

A further investigation made in this section of the study was to investigate the attitudes of the Jordanian participants towards MSA, Jordan dialects and other Arabic varieties on the status trait. The evaluation of the status rating for each variety – understanding, power, and wealth – were dependent on participants' perceptions toward each trait. What was rated high on solidarity is now rated low on the status, and the opposite is correct. MSA was viewed positively on understanding and power/status traits to falling in the middle line on wealth/status because MSA, besides being religiously significant, is the official language of all Arabs and is seen as a unifying tool that projects the Arab identity to the world (Murad, 2007). Another interesting finding is that although the Bedouin dialect ranked four on all solidarity and status dimensions, it was rated the highest on toughness/solidarity. Surprisingly, it was unexpected that the Bedouin dialect rated the second highest place on power/status after the MSA variety and much higher than the urban dialect. The rest of the Arabic varieties received different ratings except for the Gulf varieties; they received the highest ratings on wealth/status and the least ratings on social and pleasant solidarity and understanding and power/status traits. Sa'adi Egyptian dialect, Yemeni, Sudanese, and Moroccan varieties received the lowest evaluations on both dimensions, except for the Sudanese variety that was graded one number higher on the wealth/status rating. Hachimi (2015) finds that Moroccan is not clearly articulated and is thought to be somewhat unintelligible by other Arabs. The study also showed that the Sudanese and the Egyptian Arabic varieties were rated the same on the toughness trait, which contradicts Hachimi's (2015) findings regarding the Sudanese Arabic variety on tough trait: Sudanese Arabic is judged tougher and harsher than the Egyptian Arabic variety.

It is hard to say that the urban Jordanian dialect and other Arabic language varieties enjoyed positive ratings on status type than on solidarity. The participants rated or judged each language variety and dialect on each trait, based, in general, upon participants' perceptions. Ferguson (1959b) states that every speech community has attitudes and beliefs "about the community's language and other languages". For example, the urban prestige

dialect and the stigmatised rural dialect in Jordan were rated high on social solidarity. In contrast, the Bedouin dialect was rated lower than them, although it is spoken and is a stigmatised dialect. MSA was perceived more positively than other Arabic varieties and dialects concerning personal traits such as understandability, power (status), and pleasantness (solidarity), but lower on wealth (status) and social (solidarity). This finding is entirely consistent with previous research from El-Dash and Tucker (1975), who found that MSA was rated higher than other language varieties and dialects on a set of personal traits and language suitability. The Jordan Urban dialect was also rated higher on understandability and wealth (status) traits, and pleasantness and social (solidarity) traits, but lower or neutral on power (status) trait. However, it was rated very low on the tough (solidarity) trait, as it was perceived as being low on toughness. The Rural dialect is rated higher on solidarity traits than status traits but was perceived positively on understanding and power (status) traits. The Bedouin dialect was rated the highest on toughness (solidarity) and higher than urban and rural Jordanian dialects on power traits. This finding – why the Bedouin dialect was rated on power (status) higher than urban and rural Jordanian spoken dialects – corresponds with Hussein and El-Ali (1989, p. 40 and 46), in that Bedouin dialects on certain occasions or contexts are better, and Bedouin speakers are intelligent and eloquent. The rest of the language varieties and dialects varied in their ratings. The Yemeni, Sudanese and Moroccan Arabic varieties were rated the lowest on almost all personal traits because, as mentioned above, not many speakers of these varieties live in Jordan. These language varieties and dialects might not enjoy the same rating or acceptance if they were judged by non-Jordanian participants or by their speakers. A similar attitude study (Herbolich, 1979) found that Egyptian participants' attitudes towards various Arabic vernaculars on personality characteristics show that Egyptian participants favoured their native Cairene vernaculars over non-Egyptian vernaculars on seven out of ten traits.

The preceding discussion shows that differences in assigning semantic features to MSA, Jordanian spoken dialects and other Arabic varieties are significant; therefore, the variation in preferences for various Arabic varieties seems to be fundamentally connected only to Jordanian participants' attitudes. These findings' implications seem obvious, promoting awareness of social and regional variation within the Arabic language varieties amongst Jordanian participants.

This section focuses per se on participants' attitudes towards varieties of the Arabic language, showing them in boxplots on the level of status and solidarity. The results above

showed that participants rated each language variety and dialect based on how they perceived and understood each trait.

5.6 Chapter Summary

This chapter aimed to contribute to our understanding of sociolinguistic variation in language attitudes. Study 1 focused on participants' attitudes towards MSA and Jordanian colloquial Arabic on the level of dialect prestige, preference and the original dialect of Jordanian society. Findings showed that the Urban dialect was rated the most preferred and the Bedouin dialect the original dialect of the Jordanian society. It also investigated participants' attitudes to standard Arabic and Jordanian colloquial Arabic on agreement and disagreement statements by applying PCA. Finally, study 1 explored participants' attitudes regarding status and solidarity characteristics on 17 Arabic varieties. Researchers employed a semantic-differential scale concerning several personality traits with an uneven number to provide participants with a neutral answer on the scale McKenzie (2006) and these semantic traits have provided an insight into participants' attitudes. Findings showed that the MSA was rated the highest on power, understandability and pleasantness but lower on wealth and toughness. Jordanian dialects were rated high on pleasantness, but not always ranked the highest. The Moroccan dialect consistently received low scores. The next chapter (study 2) is a continuation of study 1. Study 2 is an auditory perception task that builds on the findings of study 1 to test if the findings of study 2 are consistent with the findings of study 1.

Chapter 6: Study 2: Dialect identification, attitudes, comprehensibility and accentedness

In chapter 5, the result and the data analysis of accent labels were presented and findings were discussed. Chapter six presents the recorded speakers' results and listeners' attitudes towards Standard Arabic and colloquial Arabic varieties. Results present the general attitudes of listeners from different Arab countries and significant correlations with social factors.

6. Listener identification of speakers of Arabic varieties

As discussed in chapter 3, section 3.4, a variety identification was included to investigate how accurately and consistently listeners could identify the seven Arabic and English varieties. This is important since Middle Eastern listeners have had little exposure to some Arabic varieties (e.g., Moroccan). By analysing the results obtained from a variety, the question is considered essential to determine how accurately and correctly the listeners can identify the seven varieties of Arabic speech and Arabic-accented English speech selected to evaluate the study. And the potential influence could affect listeners' ratings if they correctly or incorrectly identify the variety in question. The finding of nationality identification is interesting as MGT rarely would have the question of how accurately listeners can identify the speakers' nationality for their accents. Some studies, e.g., Bayard et al. (2001) asked listeners to choose from a predetermined list to limit misidentification types. The inclusion of variety recognition questions is deemed necessary as the study endeavours to better understand the results obtained in the verbal-guise technique. This study also attempts to consider the correct and incorrect identifications of speakers to gain a deeper understanding of what features or cues listeners based their identification upon. Moreover, it was essential to investigate the effect (if any) of the correct or incorrect identification of speaker nationality on listeners' ratings.

The inclusion of a dialect recognition item would result in having an authentic interpretation of the collected data in the following sections. The verbal-guise test does not clarify if speaker evaluation is based on correct or incorrect identification of the speaker. This study has focused on seven different Arabic varieties and dialects. As noted earlier, the listeners represent many Arab countries, but most listeners are from Jordan. Some of the Middle Eastern listeners might not have sufficient exposure to some varieties, such as Moroccan. Some have satisfactory exposure to, e.g., the Lebanese and the Iraqi varieties,

others have had low familiarity with the Jordan dialects, but the majority of the listeners have, by any means or through media, exposure to the Egyptian variety. Thus, lack of familiarity with a variety might lead to misidentification, affecting listeners' ratings as well as result validity and reliability.

Analysis of the results from variety recognition helps determine the potential effect of listeners identifying and misidentifying a variety in terms of status and solidarity and in terms of comprehensibility and accentedness. The analysis of this section begins with an identification question that is analysed as either correct or incorrect responses. Listeners, after hearing each speaker, were asked the below question:

Where is the speaker from? To what extent can listeners correctly identify Arab speakers in different Arabic varieties when listening to audio clips in?

A speaking Arabic

B reading Arabic

C speaking English

D reading English

6.1 General recognition of the seven varieties

In order to determine the variety recognition of the seven Arabic varieties and dialects of Arabic and Arabic-accented English, all the listeners' responses to the variety question were computed and classified as either correct or incorrect identifications. Table 6.1 below shows the percentage of correct responses for all the seven varieties in each language and style.

Table 6.1: Percentages and frequencies of Correct identification for Speakers' place of Origin by language and style (N=449)

Region	Language	Style	Number	Proportion
Egypt	Arabic	Reading	128	96.2
Egypt	Arabic	Speaking	124	96.1
Egypt	English	Reading	70	78.7
Egypt	English	Speaking	78	79.6
Iraq	Arabic	Reading	34	25.6
Iraq	Arabic	Speaking	97	75.2
Iraq	English	Reading	3	3.37
Iraq	English	Speaking	11	11.2
Jordan Bedouin	Arabic	Reading	26	19.5
Jordan Bedouin	Arabic	Speaking	52	40.3

Jordan Bedouin	English	Reading	27	30.3
Jordan Bedouin	English	Speaking	19	19.4
Jordan Rural	Arabic	Reading	31	23.3
Jordan Rural	Arabic	Speaking	73	56.6
Jordan Rural	English	Reading	25	28.1
Jordan Rural	English	Speaking	27	27.6
Jordan Urban	Arabic	Reading	62	46.6
Jordan Urban	Arabic	Speaking	76	58.9
Jordan Urban	English	Reading	42	47.2
Jordan Urban	English	Speaking	29	29.6
Lebanon	Arabic	Reading	62	46.6
Lebanon	Arabic	Speaking	64	49.6
Lebanon	English	Reading	13	14.6
Lebanon	English	Speaking	11	11.2
Morocco	Arabic	Reading	40	30.1
Morocco	Arabic	Speaking	99	76.7
Morocco	English	Reading	8	8.99
Morocco	English	Speaking	6	6.12

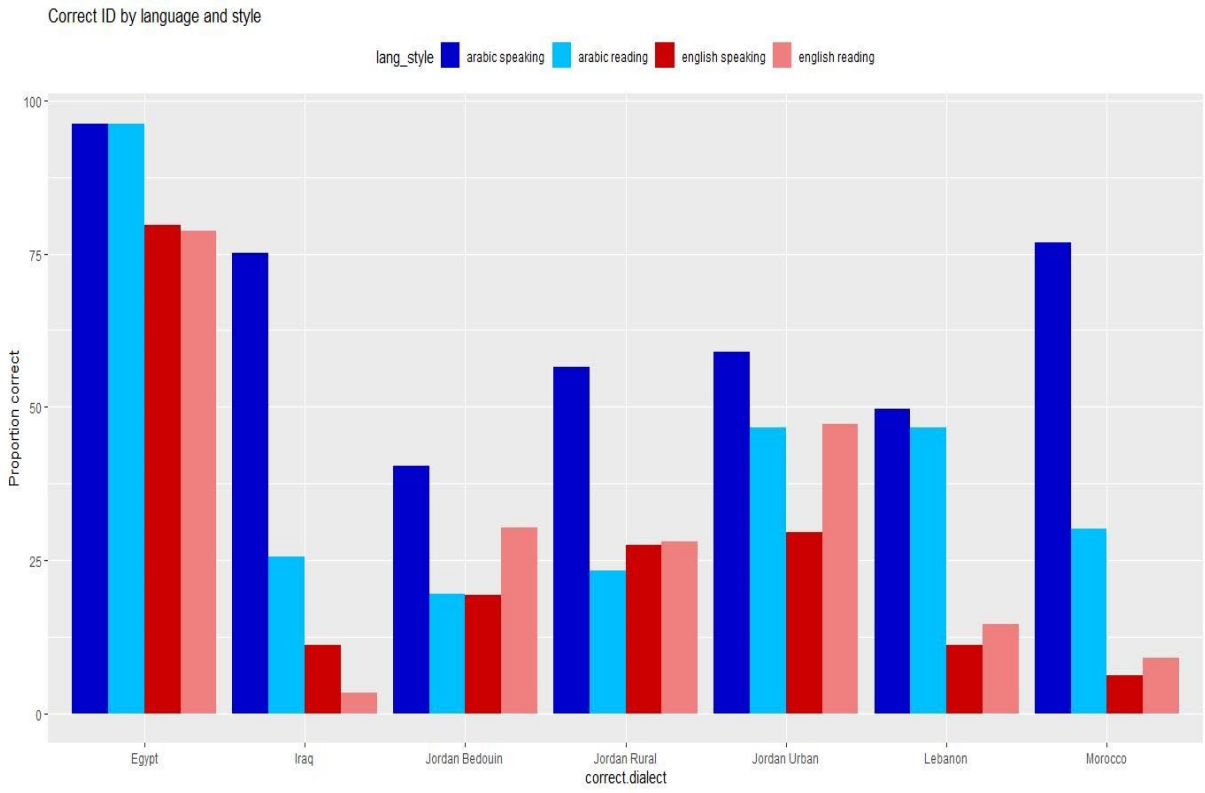

Figure 6.1: correct identification by language and style.

Table 6.1 and figure 6.1 above show that there are manifest differences amongst the listeners' variety identification rates of the seven Arabic and Arabic-accented English

varieties in both styles. The Egyptian variety was most accurately identified by listeners in both languages and styles, with overall correct identification rates (87.65%).[7] These findings confirm previous studies' findings (El-Dash & Tucker, 1975; Herbolich, 1979); Arab listeners are aware of the Egyptian variety's distinctiveness and can distinguish it from other varieties. The recognition rates for Iraqi (28.84%), Jordan Bedouin (27.38%), Jordan Rural (33.9%), Jordan Urban (45.58%), Lebanese (30.5%) and Moroccan (30.48%) show that a reasonable number of listeners were able to identify these varieties. These findings reflect a relatively moderate degree of familiarity among Arab listeners. Arab listeners seem to have a high level of exposure to the Egyptian Arabic accent, primarily through media, and also, a high level of exposure to Iraqi Arabic as a familiar accent. They also have a high level of awareness of Moroccan Arabic as an incomprehensible accent. The high level of exposure to Jordan Arabic dialects and Lebanese Arabic accents are because they are well-known regional Arabic variety speaking styles (see section 3.1.2, chapter 3). Similar results were found in the pilot study section 4.4 (see tables 4.13 and 4.14, in Chapter 4). The task of identifying speaker nationality was not easy for listeners. Table 6.1 and figure 6.1 show the correct identification responses when using the Arabic and English languages of two different styles. The listeners identified the speakers accurately and correctly in Arabic speaking style; however, they misidentified them in Arabic reading, and in English in both styles, except for the Egyptian speaker. The Egyptian accent has become well known amongst the Arab people, mainly because of Egyptian popular culture, such as Egyptian films, soap operas, songs, and television series in the Arabic language media throughout the Arab world. A similar worldwide dynamic has occurred in relation to American English (Zhang, 2010).

The Moroccan and Iraqi varieties were accurately identified by the listeners in the Arabic speaking style, with correct recognition rates 76.6% and 75.2%. The Egyptian, the Iraqi and the Moroccan speakers have been confused to a relatively low level with other varieties. For example, Iraqi sounds quite similar to Saudi and Kuwaiti, whereas Moroccan can sound quite similar to Algerian. The Moroccan variety was correctly identified not because listeners are familiar with the Moroccan variety, but because it has distinctive phonological features that are incomprehensible to most listeners, and has unique lexical variation. The Iraqi variety was also correctly identified because most Arab listeners in the Middle East believe the Iraqi variety is considered tough. However, does it mean being

[7] This percentage was calculated by adding all the correct proportions and then divide them by 4.

identified more frequently yields the highest positive ratings? To find out the answer to this question, see the results of questions two and three below.

The speakers' recognition rates in the Arabic speaking style reflect a high degree of familiarity among the listeners to the seven varieties. The recognition rates of the Jordan Bedouin speaker (40.3%) and the Lebanese speaker (49.6%) in the Arabic speaking style are relatively low since many listeners confused them with other varieties. The recognition rate of the Jordan Rural speaker (56.6%) and the Jordan Urban speaker (58.9%) are high with regards to Arabic speaking style since most listeners are from Jordan, and they sound somewhat similar.

The recognition rates for all the varieties, except for the Egyptian variety in the Arabic reading style, are relatively low (see table 6.1), since many listeners confused them with other varieties from the same region (see tables 6.6 to 6.9 below). To a certain degree, speakers applied standard features, unlike as occurred in the Arabic speaking style, which created difficulty for listeners trying to identify. The Egyptian variety was the most accurately identified in the Arabic reading style, at a frequency of 128 times, followed by Jordan Urban and Lebanese speakers at 62 times. The rest of the varieties were below 40 times.

The low recognition rates for all the varieties except the Egyptian in English in both styles show significant difficulty for listeners during identification. The most reasonable clarification for the low identification rates in English is lack of exposure to some Arabic varieties when talking in English, insufficient familiarity with these varieties, and confusion with other varieties.

The finding is interesting as it shows what accent listeners think they are evaluating regardless of whether the speaker is correctly identified or not (Lindemann, 2000). As has been suggested by Preston (1989), this type of recognition is misleading since listeners may not know the nationality of the speaker, or they might think the speaker is from another place. Another main reason for the speakers being incorrectly identified is that the identification task provided more options for the listeners to select from when they were asked to listen to each stimulus. These forced options confused the listeners as some varieties share similar phonological features with varieties from neighbouring countries.

The recognition rates shown above appeared similar to previous verbal-guised studies involving native L1 Arabic speakers, which included a dialect recognition, where a higher recognition rate occurred for Colloquial varieties and the Egyptian variety (El-Dash

& Tucker, 1975; Herbolich, 1979). These two studies did not ask the listeners to select from a predetermined list to be identified correctly (McKenzie, 2006, p. 195).

Overall, the above section showed the results of dialect identification concerning language and style. It showed that the Arabic language was identified more correctly than English. Additionally, it showed that the varieties in Arabic speaking style were correctly identified more than the varieties in Arabic reading style. The Egyptian variety was rated the highest in Arabic reading and speaking styles as well as in English reading and speaking styles than other varieties. The rest of the varieties were identified more often when in Arabic speaking style than in Arabic reading style, but were less identified when in English. In the next section, I quantitatively tested the effect of social variables on identifying language and style.

6.1.1 Statistical analysis and the results for correct identification

When I tested models, I used all the data, and the model very often failed to converge, which is likely because of the imbalance of data. I changed the factors from categorical to numeric, allowing for factors such as age, sex, education, being from Jordan, and using the same dialect speaker to be significant. Also, to carry on with modeling, Egypt was removed from the analysis because of the high recognition of the Egyptian accent in both languages and styles. There were few incorrect responses for Egypt, and listeners mostly recognize the Egypt dialect correctly, as shown in tables 6.1 above and 6.2 below. The Egyptian speaker is excluded from all the statistical analyses in questions two and three.

Table 6.2: Number of correct and incorrect responses given

Variety	incorrect	correct
Egypt	49	400
Iraq	304	145
Jordan Bedouin	325	124
Jordan Rural	293	156
Jordan Urban	240	209
Lebanon	299	150
Morocco	296	153

The 2694 observations from 449 responses were hand-fitted into binomial mixed-effects logistic regression model in R using the *glmer* function in the *lme4* library (Baayen et al., 2008; Bates et al., 2014), implemented in R (R Core, Team, 2018). The dependent variable was a binary 'correct'/'incorrect' response identifying a speaker's nationality. I tested the fixed effects:

- **Country of origin**: where is the speaker from? 'Syria', 'Lebanon', 'Jordan Urban', 'Jordan Rural', 'Jordan Bedouin', 'Saudi Arabia', 'Morocco', 'Algeria', 'Iraq', 'Kuwait', 'Egypt', 'Sudan', 'America', 'Britain'.
- **Listener age group**: listeners were split into five groups: '18-30', '31-40', '41-50', '51-60', and '61+'.
- **Sex of the listener**: 'male', 'female'.
- **Education:** splits into five groups; 'Ph.D.', 'Masters', 'Bachelors', 'College', and 'Other'.
- **Language**: 'Arabic' and 'Arabic-accented English'.
- **Style**: 'reading' and 'speaking'.
- **Correct dialect**: 'Egypt', 'Iraq', 'Jordan Urban', 'Jordan Rural', 'Jordan Bedouin', 'Lebanon' and 'Morocco'.
- **Correct answer given**: 'correct' or 'incorrect' variety.
- **From Jordan**: listeners are from Jordan and not from Jordan.

- **Same dialect**: listeners from the same variety.

I tested the interactions between all the main fixed effects. I included ResponseId and question as random effects to control multiple responses per listener. If a variable showed no significance in a model, the variable was removed. Models were compared with ANOVA, where models with lower AIC scores were kept. The final model is shown in table 6.2.

Table 6.3: Fixed effect for a model of correct responses to the question 'where is this speaker from?, using all the speakers' dataset

Fixed effects:					
	Estimate	Std. Error	z value	Pr(>|z|)	Sig
(Intercept)	-0.6525	0.3567	-1.829	6.74E-02	.
stylespeaking	0.5851	0.3311	1.767	0.077196	.
languageenglish	-1.0134	0.4186	-2.421	0.015490	*
age	-0.1795	0.1075	-1.669	9.50E-02	.
sexMale	-0.7529	0.2657	-2.833	4.61E-03	**
same.dialectes	1.0827	0.1446	7.489	6.94E-14	***
languageenglish:age	-0.2525	0.1292	-1.954	0.050697	.
age:sexMale	0.4333	0.1262	3.434	0.000596	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The model is presented in table 6.2, and the effects of significant variables are plotted in figure 6.2. The Y-axis represents the correct given answer. The X-axis represents independent variables (style, language, age, sex, and same dialect, and the effect of language with age, and age with sex and the same dialect). There was no statistically significant effect of the speaking style. Still, there were significant negative effects of the English language and sex, and positive effects with listeners of the same dialect. There was a significant positive interaction between age and sex, and a marginally negative significant interaction between English and age. The results show that language English is significant with a p-value of (0.015490) compared to language Arabic, as shown in figure 6.2. The negative sign in the 'Estimate' column (-1.0134) shows that speakers, when speaking in the English language, were less identified than when they were speaking in Arabic. The male listeners were significant with a p-value of 0.004611. The negative value in the 'Estimate' column (-0.7529) shows that the male listeners identified the speakers less correctly than female listeners. There was a statistically significant interaction between age and sex with a p-value

0.000596. The positive value in the 'Estimate' column (0.4333) shows that male listeners, particularly older listeners, were more accurate in identifying the speakers than female listeners.

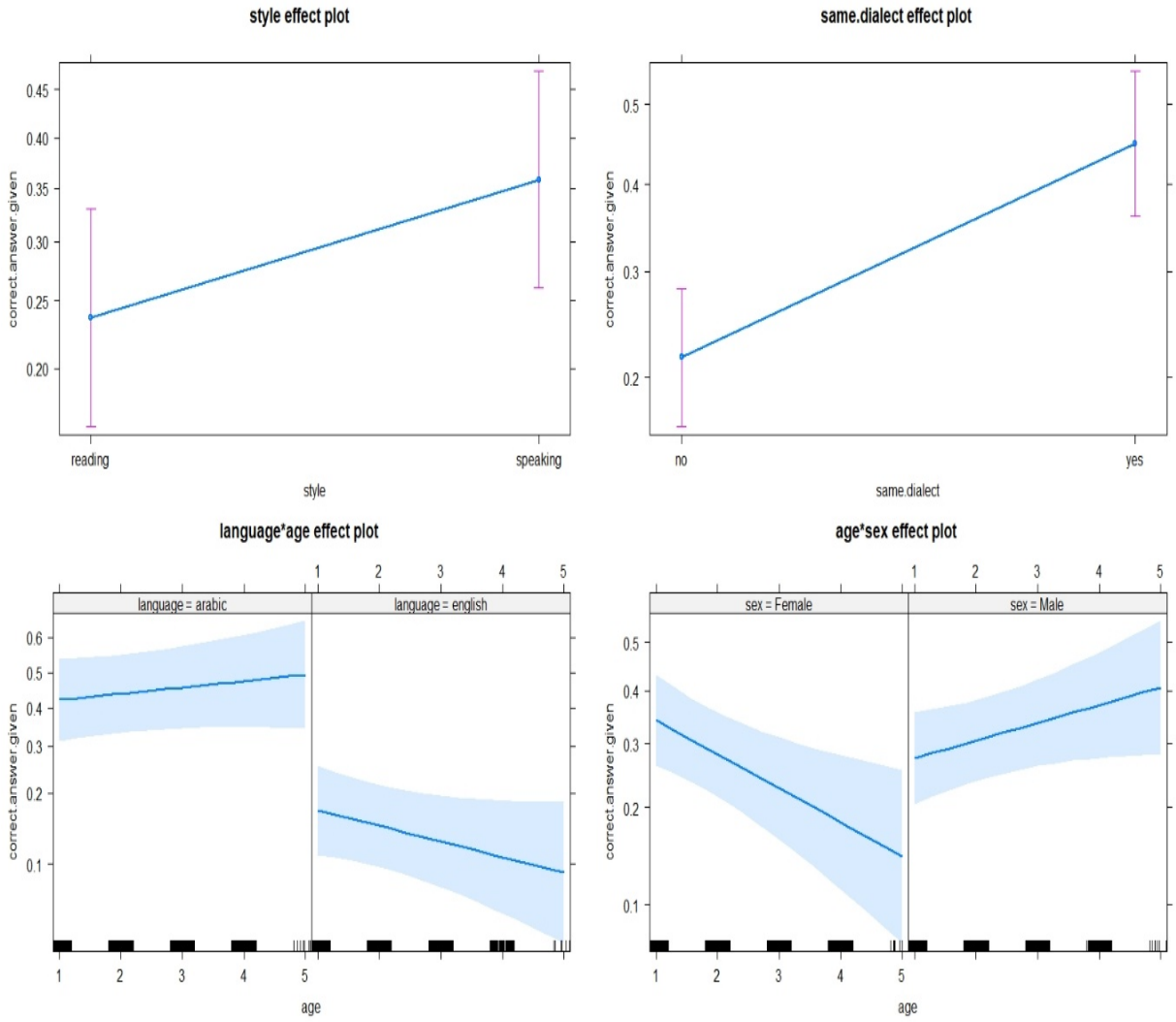

Figure 6.2: The interaction of language with age and interaction of age with sex and the same dialect on the style and language clips in Arabic.

The top left pane shows that listeners were able to identify the speakers mostly easily in speaking style than in reading style. The top right pane shows that listeners of the same dialect can identify their language variety more so than listeners who do not use the same language variety or dialect. The bottom left pane shows that listeners performed better in identifying the speakers in Arabic than in English. Older listeners were slightly better at identifying the speakers' varieties in Arabic than younger listeners, and younger listeners better identified the speakers' varieties when the speaker used English, more so than older listeners. The bottom right pane shows that male listeners performed better than female

listeners in identifying speaker nationality. It shows that younger female listeners were better than older female listeners in identifying the speakers' varieties. In contrast, older male listeners performed better than younger male listeners in identifying the speakers' nationality.

Model and figure 6.2 looked at the correct/incorrect responses in general. In the following models, I tested each language (Arabic and English) separately, quantifying the effect of the social factors on the responses. Firstly, I looked at the Arabic language.

The 1572 observations from 262 responses were hand-fitted into binomial mixed-effects logistic regression model in R using the *glmer* function in the *lme4* library (Baayen et al., 2008; Bates et al., 2014), implemented in R (R Core, Team, 2018). The dependent variable was a binary 'correct'/'incorrect' response identifying the listener correctly identifying speaker nationality. Fixed effects that failed to reach significance were removed and the model re-run without them. I run ANOVA and the better model was kept.

Table 6.4: Fixed effects for a model of correct responses to Arabic style to the question 'Where is the speaker from'?

Fixed effects:					
	Estimate	Std. Error	z value	Pr(>|z|)	Sig
(Intercept)	-0.83418	0.43016	-1.939	0.052471	.
stylespeaking	1.26336	0.52831	2.391	0.016788	*
age	-0.28522	0.1474	-1.935	0.052993	.
sexMale	-0.76146	0.32677	-2.33	0.019793	*
same.dialectyes	0.84448	0.18397	4.59	4.43E-06	***
stylespeaking:age	0.01562	0.14502	0.108	0.91422	
age:sexMale	0.53999	0.15324	3.524	0.000425	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The model is presented in table 6.4. The coefficient of the speaking style is significant, with a p-value of 0.016788. There were statistically significant effects of sex and same dialects with p values 0.019793 and 4.43e-06, respectively. There was an interaction between age and sex. For instance, the interaction of age with sex is significant at a p-value of 0.000425. The negative value in the 'Estimate' column (-0.83418) for Intercept indicates that listeners were less likely to identify the speakers in the Arabic reading style than in Arabic speaking style. The 'Estimate' column (-0.76146) for sex indicates that male listeners are less likely

to identify the speakers' nationality more than females do. The positive value of the 'Estimate' column (0.84448) for the same dialect shows that listeners of the same dialect were more likely to identify the same dialect speakers than speakers who are not speaking the same dialect. The positive value for the 'Estimate' column (0.53999) for the interaction of age with sex indicates that older male listeners are better at identifying the speakers' nationality than younger male listeners, whereas younger female listeners were better older female listeners.

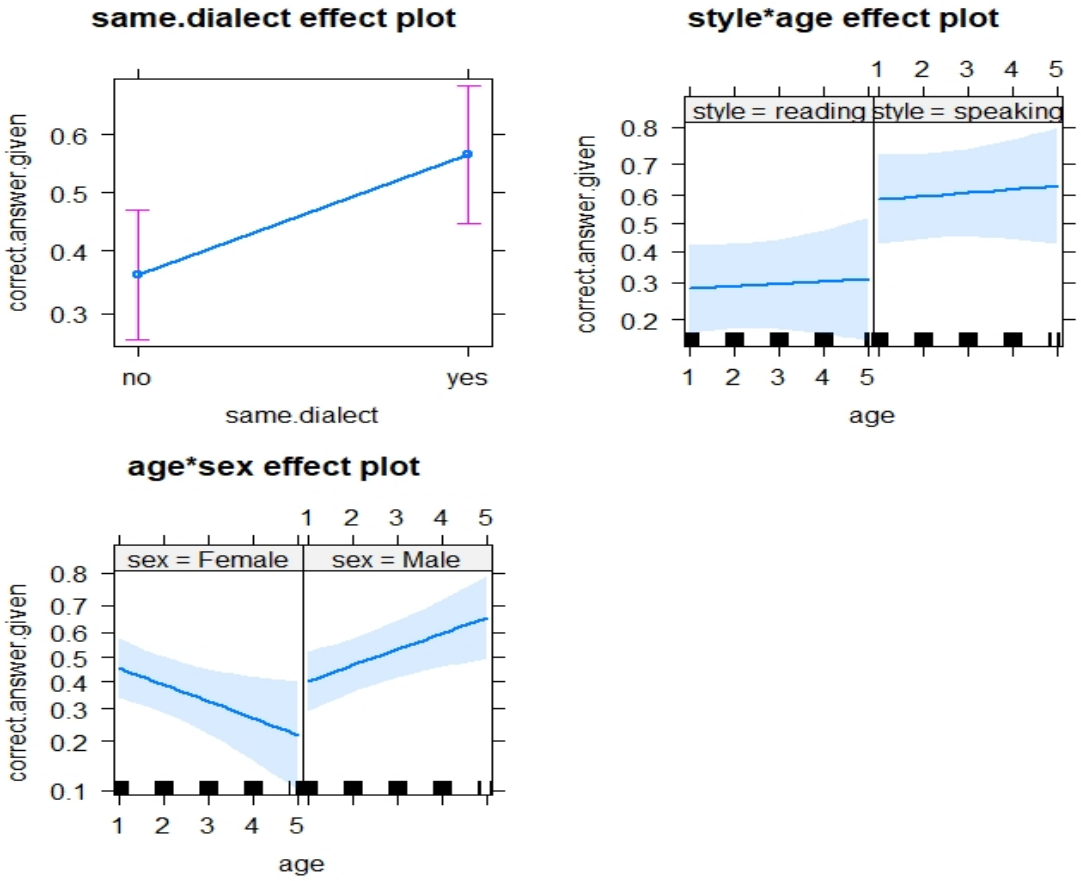

Figure 6.3: The interaction of style, age and sex on Arabic identification

Figure 6.3 above shows the interaction of style with age and age with sex and the same dialect. The top left pane shows that listeners were able to identify the speakers who speak the same variety. The top right pane shows the Arabic speaking style speakers were more correctly identified than those speaking with the Arabic reading style. The bottom pane shows that male listeners performed better than female listeners in identifying the speakers' nationality. The younger female listeners performed better than older female listeners,

whereas the older male listeners identified speaker nationality more than younger male listeners.

Another mixed-effects model was run to examine the effect of the fixed social variables on English responses. The model contains style, age and sex as fixed effects. The 1122 observations from 187 responses were hand-fitted into binomial mixed-effects logistic regression model in R using the *glmer* function in the *lme4* library (Baayen et al., 2008; Bates et al., 2014), implemented in R (R Core, Team, 2018). The dependent variable was a binary 'correct'/ 'incorrect' response identifying the correct listener identification of the speaker nationality. Fixed effects that failed to reach significance were removed and re-run the model without them. I run ANOVA, and the better model was kept.

Table 6.5: Fixed effects for model of correct responses to English style to the question 'Where is the speaker from?'

Fixed effects:					
	Estimate	Std. Error	z value	Pr(>|z|)	Sig
(Intercept)	-1.83599	0.40304	-4.555	5.23E-06	***
Stylespeaking	0.0982	0.47971	0.205	0.838	
Age	-0.07662	0.18761	-0.408	0.683	
sexMale	-0.66424	0.45801	-1.45	0.147	
same.dialectyes	1.64114	0.21109	7.774	7.58E-15	***
stylespeaking:age	-0.19179	0.21128	-0.908	0.364	
age:sexMale	0.16542	0.22108	0.748	0.454	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The model is presented in table 6.5. The model shows no statistically significant effects of the speaking style, age, and interaction between speaking style and age and sex. There was a statistically significant effect on the same dialect with a p-value of 7.58e-15. The positive value of the 'Estimate' column (1.64114) shows that listeners could identify the speakers who speak the same language variety.

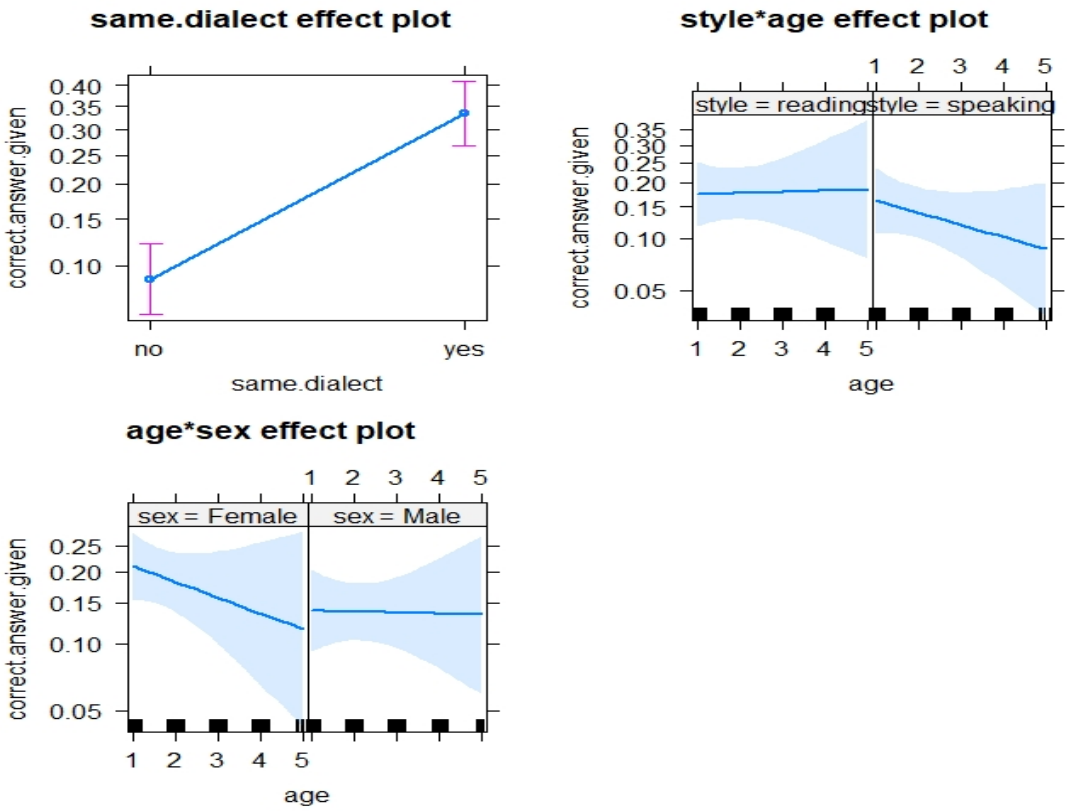

Figure 6.4: The interaction of style, age, sex and same dialect on English identification

Figure 6.4 shows the effect of style interaction with age, and age with sex and the same dialect, for correct English reading and speaking style responses. The top left pane shows that listeners who speak the same language variety can easily identify it more so than listeners who do not speak it. The top right pane shows that listeners could identify the speakers in English reading more than the English speaking style. Also, younger listeners were more accurate in identifying the speakers in English speaking style than older listeners. The bottom pane shows that younger female listeners were more accurate in identifying speaker nationality more than older female listeners, whereas male listeners of different ages showed no difference.

The results above tell us that listeners were able to accurately identify the Egyptian variety more than other varieties. The Egyptian speaker is removed from the analysis of questions 2 to 4 because he is always correctly identified, and models did not converge when the Egyptian speaker was not removed. Also, listeners identified Arabic more accurately than English, and Arabic speaking style more correctly than the Arabic reading style. Moreover, listeners of the same language variety were able to identify their variety more so than listeners who did not speak other varieties. The male listeners performed better than

the female listeners, and older male listeners performed better than younger male listeners. In contrast, younger female listeners performed better than older female listeners.

6.1.2 Variety identification in Arabic

When examining speaker nationality identification and misidentifications, it was necessary to classify the listeners' responses into Arabic speaking style, Arabic reading style, English speaking style, and English reading style. I wanted to determine if L1 (Arabic) speaking features affect L1 reading features' production and whether L1 features affect L2 (English) productions. Tables 6.6 to 6.9 below list the confusion matrix and how much the speakers were confused with other nationalities. Also, figures 6.5 to 6.8 below show correct and incorrect identification for each speaker by language and style.

Table 6.6: Frequency of nationality responses by Arabic speaking style

	Egypt	Iraq	Jordan Bedouin	Jordan Rural	Jordan Urban	Lebanon	Morocco
Algeria	0	0	2	1	0	1	25
America	0	0	0	0	0	0	0
Britain	0	0	0	0	0	0	0
Egypt	124	0	0	0	0	0	0
Iraq	2	97	8	9	2	2	1
Jordan Bedouin	0	1	52	19	1	0	0
Jordan Rural	2	0	2	73	32	0	0
Jordan Urban	1	1	3	19	76	1	1
Kuwait	0	12	22	3	0	0	0
Lebanon	0	0	0	0	5	64	1
Morocco	0	1	0	0	0	0	99
Saudi Arabia	0	14	35	1	1	0	0
Sudan	0	0	5	2	0	0	2
Syria	0	3	0	2	12	61	0

Table 6.6 below shows how listeners identified each speaker in Arabic speaking style. As can be seen, the Egyptian speaker was the most accurately identified variety and the least confused with other varieties along with the Moroccan and the Iraqi speakers. Most Arabic varieties have resemblance or somewhat sound quite similar to other neighbouring varieties. For example, Kuwaiti and Iraqi, Saudi and Bedouin, Lebanese and Syrian, Moroccan and Algerian varieties resemble each other. However, the only variety that does not resemble any Arabic variety and easily identified is Egyptian Arabic.

Moreover, the listeners were also able to correctly recognize the Moroccan and the Iraqi varieties arguably because of each variety's unique phonological features. To a certain degree, the Moroccan variety is incomprehensible to most Middle Eastern people. The Jordan Urban speakers were also correctly identified, followed by the Jordan Rural speaker. The majority of the listeners are from Jordan, and the least recognised speaker was Jordan Bedouin. The findings suggest, that although some confusion exists, most listeners were able to recognise speakers' place of origin in Arabic speaking style. The Lebanese speaker was correctly identified but sounds moderately similar to Syrian. Despite the confusion between these two accents, the Lebanese accent is reasonably accepted as Syrian. The Jordan Bedouin variety was also identified, but it sounds quite like Saudi and Kuwaiti. Thus, the Jordan Bedouin variety was confused with Saudi and Kuwaiti varieties.

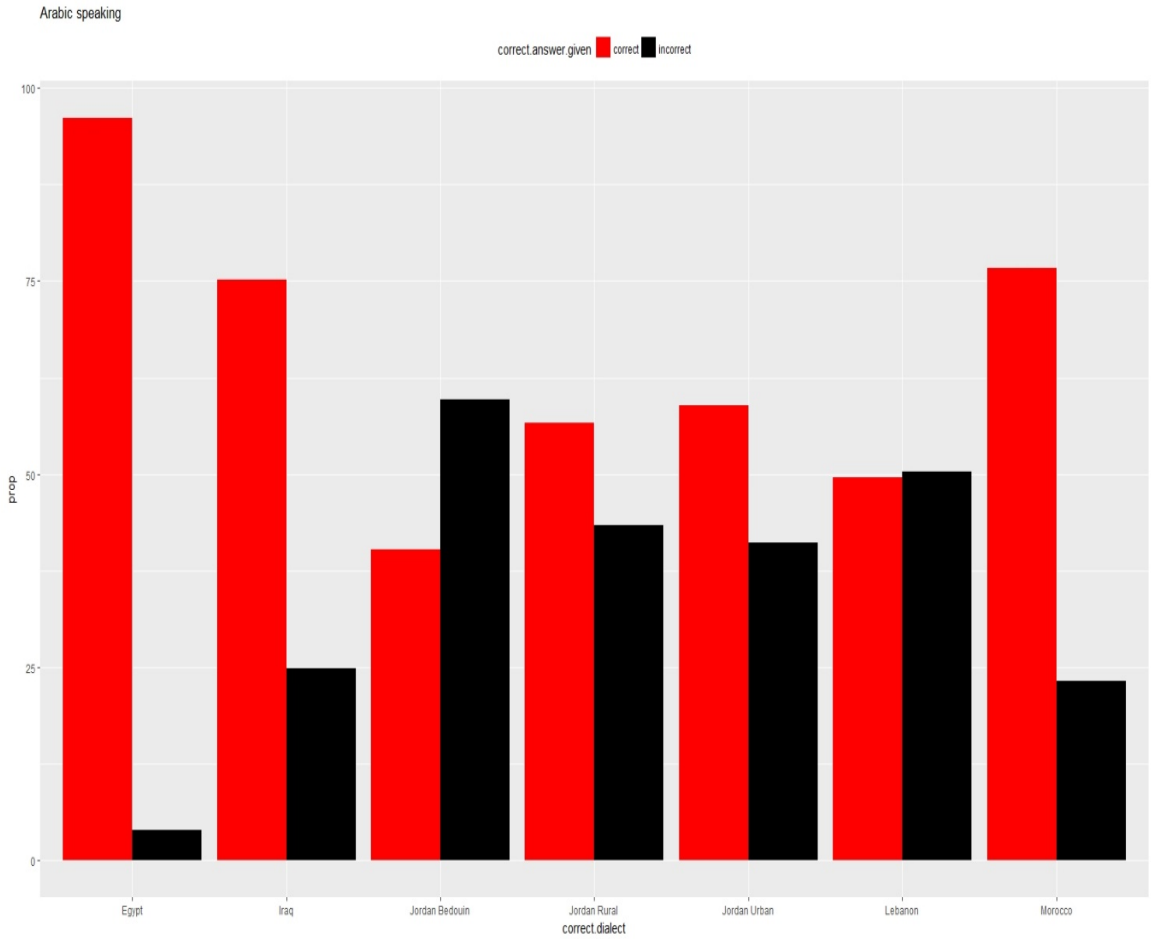

Figure 6.5: Listeners' classification of dialect identification by Arabic speaking style and region.

Figure 6.5 shows listeners' responses when correctly and incorrectly identifying the region or the variety of speakers represented by bars. The red bar represents correct identification,

and the black bar represents incorrect identification. As can be seen, the Egyptian variety was the most correctly identified, followed by the Moroccan and the Iraqi varieties, whereas the Jordan Bedouin variety was the least identified.

Key:

1- Egypt
2- Iraq
3- Jordan Bedouin
4- Jordan Rural
5- Jordan Urban
6- Lebanon
7- Morocco

Table 6.7: Frequency of nationality responses by Arabic reading style

	Egypt	Iraq	Jordan Bedouin	Jordan Rural	Jordan Urban	Lebanon	Morocco
Algeria	0	4	2	3	1	1	19
America	0	0	0	0	0	0	0
Britain	0	0	0	0	0	0	0
Egypt	128	1	1	0	0	0	2
Iraq	0	34	2	3	0	0	1
Jordan Bedouin	0	6	26	10	1	0	0
Jordan Rural	2	9	2	31	53	0	7
Jordan Urban	3	16	3	46	62	3	8
Kuwait	0	14	8	6	1	0	0
Lebanon	0	0	0	2	3	62	0
Morocco	0	0	1	2	1	2	40
Saudi Arabia	0	30	42	7	2	0	35
Sudan	0	0	46	1	1	0	18
Syria	0	19	0	22	8	65	3

Table 6.7 shows listeners' responses towards speakers from different regions, in Arabic reading style. Overall, the Egyptian variety was the most accurately identified, whereas the rest of the varieties were less identified and were confused with other varieties. For example, the Iraqi variety was identified 34 times but was thought to be Saudi 30 times, Jordan Urban and Kuwaiti 16 and 14 times. The Moroccan variety was positively identified in Arabic speaking style, but somewhat identified 40 times in Arabic reading style and was confused with the Saudi variety 35 times, Algerian 19 times and Sudanese 18 times. The Lebanese speaker in Arabic reading style was guessed correctly 62 times but was guessed incorrectly 65 times as Syrian. Jordan Urban was guessed correctly 62 times but was also thought to be a Jordan Rural speaker 53 times. The Jordan Rural speaker was identified 31 times but

incorrectly guessed 46 times as Jordan Urban speaker, 22 times as Syrian and 10 times as a Jordan Bedouin speaker. The Jordan Bedouin speaker was correctly identified 26 times but guessed incorrectly 46 times, as being from Sudan and 42 times as Saudi.

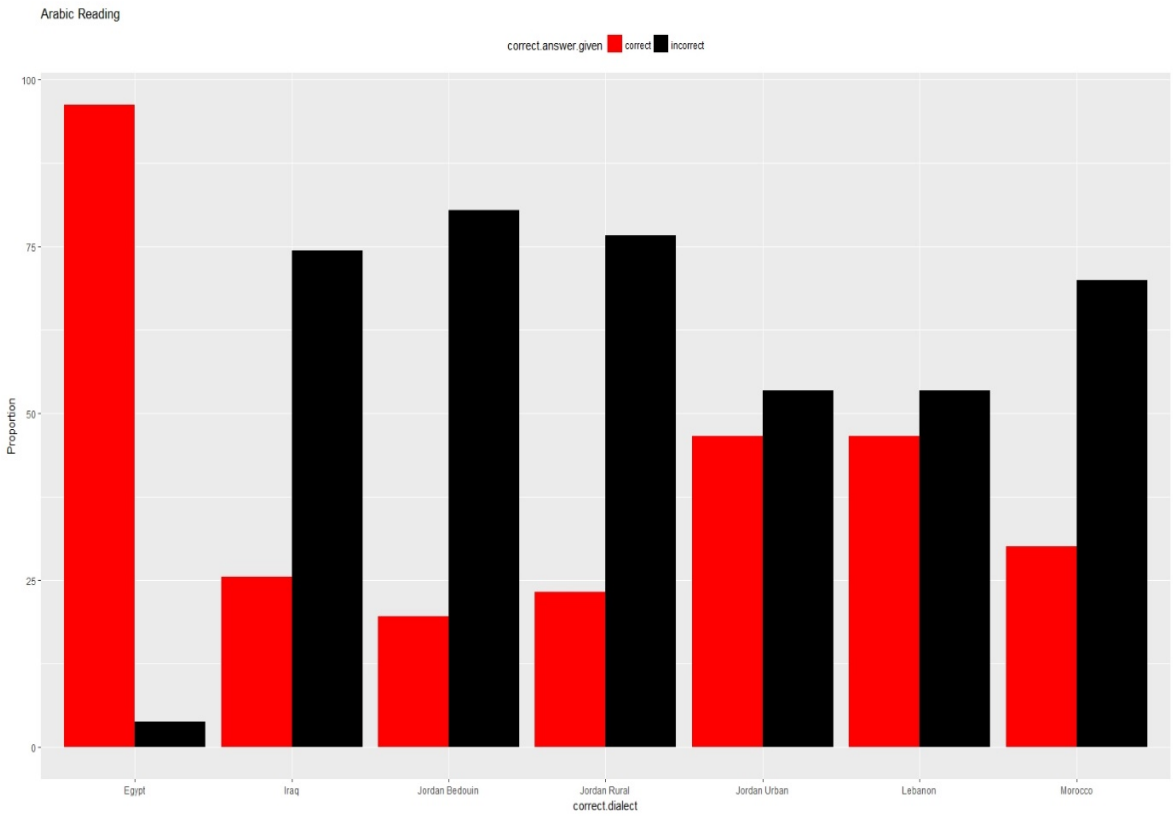

Figure 6.6 : Listeners' classification of dialect identification by Arabic reading style and region

By looking at figure 6.6, it shows that all the speakers were incorrectly identified, except for the Egyptian speaker. Also, the Egyptian was the variety least confused with other varieties. The Jordan Urban and the Lebanese varieties were correctly identified but were thought to be Jordan Rural and Syrian varieties, respectively.

Key:

1- Egypt

2- Iraq

3- Jordan Bedouin

4- Jordan Rural

5- Jordan Urban

6- Lebanon

7- Morocco

6.1.3 Variety identification in English

Table 6.8: Frequency of nationality responses by English speaking style

	Egypt	Iraq	Jordan Bedouin	Jordan Rural	Jordan Urban	Lebanon	Morocco
Algeria	0	3	0	2	4	1	13
America	1	2	0	2	1	0	6
Britain	1	3	0	0	1	1	5
Egypt	78	0	3	2	0	5	1
Iraq	0	11	2	7	0	4	3
Jordan Bedouin	1	2	19	12	6	2	1
Jordan Rural	5	10	9	27	37	9	7
Jordan Urban	4	26	5	20	29	14	17
Kuwait	0	11	13	2	1	4	2
Lebanon	0	6	1	2	1	11	3
Morocco	0	4	0	2	2	1	6
Saudi Arabia	1	3	39	8	7	6	5
Sudan	1	0	5	1	0	2	22
Syria	6	17	2	11	9	38	7

Table 6.8 shows listeners' responses towards speakers of different regions in English speaking style. However, all speakers are Arabs but come from different areas and use different language varieties. The only variety that was undoubtedly the easiest to identify and the least confused with other varieties compared to other varieties is the Egyptian variety (78 times correctly identified). Though the Egyptian speaker was highly educated, graduated from an English-speaking country, has very good command of English, but there is a touch of identity in his accent. The Moroccan variety was the least correctly identified (6 times correctly identified). However, he was 22 times identified as being from Sudan, 17 times from Jordan Urban and 13 times as Algerian. Jordan Bedouin was guessed correctly 19 times but incorrectly guessed 39 times as Saudi and 13 times as Kuwaiti. The Jordan Urban and Jordan Rural varieties were guessed correctly at 29 and 27 times respectively but were confused with each other and also as Syrian. The Lebanese speaker was identified 11 times but was misidentified 38 times Syrian and 14 times as Jordan Urban.

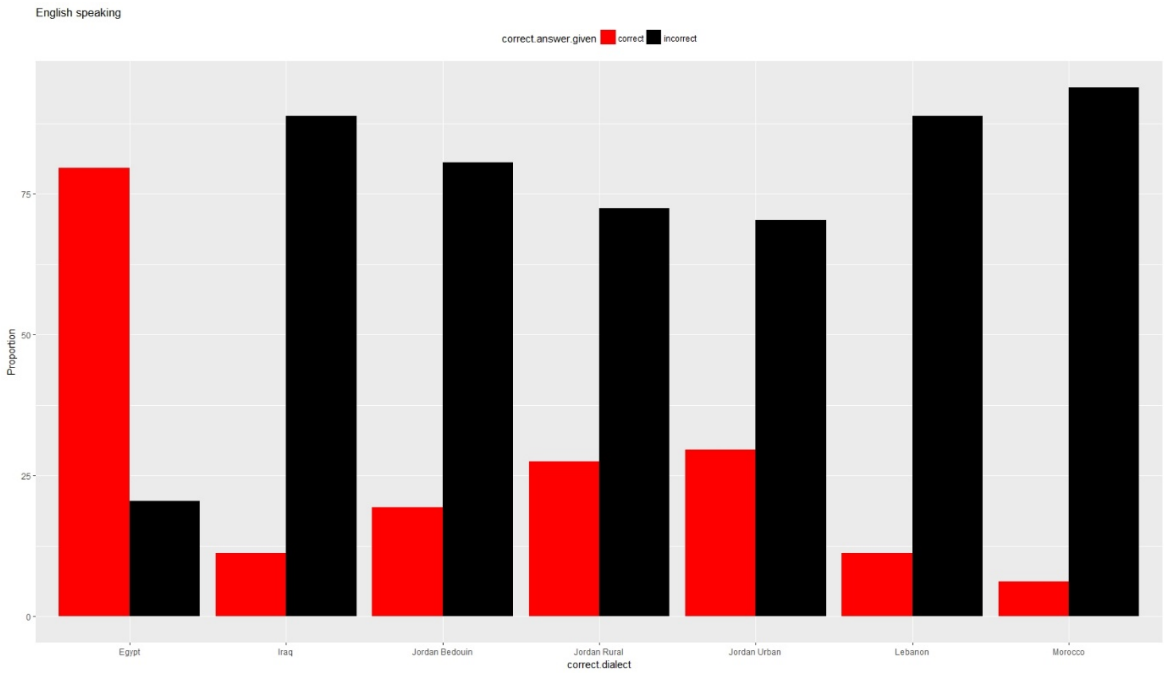

Figure 6.7: Listeners' classification of dialect identification by English speaking style and region

Figure 6.7 shows the correct and incorrect identification of speakers in the English speaking style. As mentioned before, the Egyptian variety received the most correct identifications, being the least confused with other varieties. However, the Moroccan, the Iraqi, and the Lebanese varieties were the most incorrectly identified and the most confused with other varieties.

Key:

1- Egypt

2- Iraq

3- Jordan Bedouin

4- Jordan Rural

5- Jordan Urban

6- Lebanon

7- Morocco

Table 6.9: Frequency of nationality responses by English reading style

	Egypt	Iraq	Jordan Bedouin	Jordan Rural	Jordan Urban	Lebanon	Morocco
Algeria	0	1	0	2	2	1	7
America	0	0	0	0	1	0	5
Britain	1	1	1	0	2	1	5
Egypt	70	2	2	1	0	2	1
Iraq	0	3	4	7	0	1	2

Jordan Bedouin	1	4	27	7	5	5	2
Jordan Rural	3	23	3	25	14	6	5
Jordan Urban	6	17	4	21	42	7	14
Kuwait	0	2	9	7	3	3	1
Lebanon	1	5	0	3	8	13	9
Morocco	1	5	1	2	4	6	8
Saudi Arabia	1	4	30	4	2	2	19
Sudan	0	2	8	3	1	1	7
Syria	5	20	0	7	5	41	4

Table 6.9 shows how often each speaker was correctly identified and how often each speaker was thought to be other speakers. The Egyptian speaker was the most correctly identified (70 times) but was slightly confused with other varieties. The Jordan Urban, Jordan Bedouin, and Jordan Rural speakers were also correctly guessed (42, 27 and 25 respectively), but were significantly confused with other speaker varieties. The Iraqi speaker was the least identified (3 times) and the most confused with different varieties. For example, the Iraqi speaker was thought to be a Jordan Rural speaker 23 times, Syrian 20 times, and Jordan Urban speaker 17 times.

The Lebanese speaker was correctly guessed (13 times) but was misidentified as Syrian (41 times) and also thought to be Syrian. The Moroccan speaker was correctly identified 8 times. Both the Jordan Bedouin and the Moroccan speakers were thought to be Saudi (19 times) and Jordan Urban (14 times). The only variety that was always guessed as Syrian in Arabic and English in both styles is the Lebanese variety.

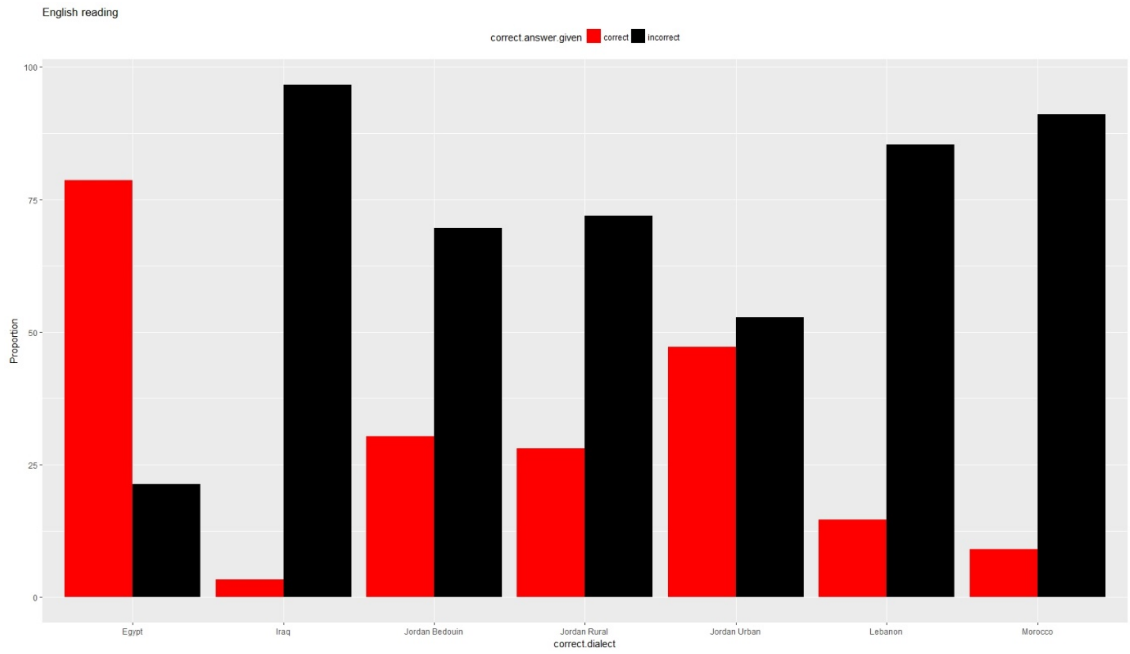

Figure 6.8: Listeners' classification of dialect identification by English reading style and region

Figure 6.8 shows the vertical bars whose height indicates the proportion of values in each interval. Overall, the Egyptian variety was the most accurately identified in the English reading style. The Jordan Urban dialect was almost correctly identified, but the rest were the least correctly identified. Among the misidentified varieties, the Iraqi variety was the least identified variety. Key:

1- Egypt

2- Iraq

3- Jordan Bedouin

4- Jordan Rural

5- Jordan Urban

6- Lebanon

7- Morocco

Overall, there is a dramatic drop in recognition ratings between Arabic and English, and Arabic speaking and Arabic reading styles. The current study used a predetermined list of choices, which gave the listeners more varieties to select, instead of limiting them to the varieties under study. These options confused the listeners due to similarities between the varieties, which led to low recognition rates in Arabic reading style due to the responses' idiosyncratic nature (Zhang, 2010). To conclude, listeners identified the Arabic speaking style mostly correctly and efficiently than the Arabic reading style and English in both styles.

As mentioned and shown in the tables and figures above, the only variety that was easily identified in Arabic and English is the Egyptian variety.

6.1.4 Discussion of Question one: Where is the speaker from when he spoke in:

A speaking Arabic

B reading Arabic

C speaking English

D reading English

The questionnaire included a question that aimed to investigate whether, and how consistently, Arab listeners could identify the seven speakers' varieties of Arabic and Arabic-accented English. All the responses to the variety identification question were categorised as correct or incorrect identifications. The current study focused on seven different varieties and dialects of Arabic. However, a lack of familiarity or exposure to a language variety may have led to misidentification, affecting the results' reliability (Zhang, 2010). Therefore, a variety of identification questions is necessary to determine whether correct or incorrect identification is correlated with the speakers' evaluations. Findings demonstrated that Arab listeners, with only short audio speech samples, can correctly identify the nationality of the speech varieties in the Arabic speaking style, as shown in figures 6.2 and 6.5 above. Surprisingly, the Egyptian speaker seems to have been recognised the most, correctly identified more often than other Arab nationalities in both Arabic styles (El-Dash & Tucker, 1975); see table 6.1 above and table 4.12 in Chapter 4.

The task of identifying speaker nationality was difficult for listeners (Lindemann, 2003, p. 353) because the speakers and the listeners come from the same language, Arabic, as shown in table 6.1 and figure 6.1. The question related to a variety of identification is considered significant as it helps to understand the results attained in the verbal-guise technique. For example, in the Arabic speaking style, the correct identification of the speaker variety was high. Expectedly, the fact emerging from this study is that the listeners identified the speakers' accents of Arabic reading style and in English of both styles entirely inaccurately, except for that of the Egyptian speaker. Listener identification of different accents is assumed to be based on listeners' first impressions or thoughts of the speakers belonging to a social group or a particular region (Lindemann, 2000), and the close phonological relationships between some accents (L. Milroy & McClenaghan, 1977).

Overall, speakers were less recognized when using Arabic reading style and English of both styles, except for the Egyptian variety. In general, a potential reason for Arab speakers being misidentified in the Arabic reading style is that Standard Arabic has the same phonological features, not like the spoken dialects that each dialect differs phonologically and lexically from other dialects. Moreover, speakers to some extent correctly applied the standard Arabic features in their reading speech styles, making it problematic for listeners to identify them (except for the Lebanese speaker: see table 6.1 above). The same findings were applied in the English language (Baker et al., 2009; Williams et al., 1999). News reporters in the Arab media apply the Standard Arabic, and rarely their region is recognised. It might be more comfortable when you compare Arab speakers with non-Arab speakers such as Europeans, Asians, or Indians when talking in English, and then rating them on variety identification, accentedness, comprehensibility, and status and solidarity traits (see Jaber & Hussein, 2011 an example of Jordan).

Some studies show that misidentification of a variety or the nationality of a speaker is not problematic because the characteristics of a variety or a speaker's accent may cause an evaluative reaction for listeners (Lindemann, 2000, p. 27; Milroy & McClenaghan, 1977). To control the misidentification of varieties under investigation, some researchers have conducted preliminary checks to make sure the speech varieties are identifiable by different listeners. To ensure the recognition question is entirely understood, I ran a pilot study (see section 4.4 in Chapter 4), including an accent recognition question in the design of VGT before conducting the primary research, to ensure that the voice samples are recognizable (Bayard et al., 2001; Giles, 1970; Hiraga, 2005; Lindemann, 2003). The inclusion of accent recognition in the pilot study assists the researcher in whether the listeners correctly identify the varieties in question.

There are noticeable differences amongst listener recognition rates of the seven Arab varieties when read and spoken in Arabic and English. The high recognition of the Egyptian variety is endorsed by (Kerswill & Williams, 2002, p. 202), who state that a 'highly distinctive dialect is likely to be more easily recognised than less distinctive dialects. For most listeners, the Egyptian speaker was the most correctly identified speaker in Arabic and English in both styles (see table 6.1 above, 96.2, 96.1, 78.7, and 79.6, respectively). The high ratings indicate that the vast majority of the listeners have had extensive exposure to the Egyptian variety through media. The familiarity with the Egyptian unique phonological and lexical features distinguishes it from other Arabic and English varieties.

Moreover, many Egyptian people work throughout most Arab countries, specifically in Middle Eastern countries and the Gulf States. The variety of English the Egyptian people speak is phonologically distinctive from other Arabic varieties. A similar result was found for two speakers in Williams et al. (1999, pp. 351-352), whom young adolescent listeners correctly identified: the RP2 and Cardiff 2.

The second most identified varieties, particularly in the Arabic speaking style, are the Moroccan and the Iraqi varieties. The variety of Arabic the Moroccan speakers use made it easily recognisable, not due to its familiarity or media, but, as mentioned before, its uniqueness of being incomprehensible to non-Maghrebi people, mainly Arab people of the Middle East, and the unique lexical variations they use. It has been argued that the successful identification of these Arabic varieties is facilitated by geographical proximity and cultural prominence (Montgomery, 2007, 2012). While Morocco is geographically far from the Middle East, but it has a distinctive accent. Inexperienced listeners of the Maghrebi varieties relied on phonological features, lexical items, and familiarity with the target accent to make their judgments (Gass & Varonis, 1984; Kang et al., 2019). The Moroccan Arabic accent's uniqueness in spoken Arabic is heavily influenced by the Berber language and, to a lesser extent, French and Spanish (see section 3.1.2.5.1 and table 3.8 in chapter 3). When Middle Eastern Arabic people first hear the Moroccan Arabic colloquial accent, they think they are hearing a completely different language. However, listeners were not asked to leave comments on what made them sure this speaker belongs to this nationality even if they misidentified him. Preston (1989) argues that listeners not commenting on how they identify the speaker can affect the results in some way.

The Arabic variety the Iraqi speakers used made the variety recognisable due to the linguistic or paralinguistic features; listeners are familiar with the Iraqi accent due to social contact with them, particularly in the case of Middle Eastern Arab listeners, and due to its appearance through mass media. One example that is familiar to listeners is the unique pronunciation of the consonant affricate /č/, as an allophone for the /k/ sound in some words, e.g., "chaan" (he was) (Albuarabi, 2018). Other examples are, e.g., "Ani chinit" (I was), "Inta chinit" (you (m) were), "Inti chinti" (you (f) were), "chakooch" (hammer) and "shwakit" (when).

Likewise, listeners are familiar with Iraqi Arabic, because it has several features that act as strong perceptual cues, and the variety occurs in regions geographically proximate with some Arab countries (including Jordan, Syria, Saudi Arabia, and Kuwait). Other factors that help listeners identify the Iraqi accent is that many Iraqi people were forced to leave

their country and live in other Arab countries, Jordan, as well as some Western countries. Overall, the successful identification of the Moroccan and the Iraqi Arabic varieties is due to highly distinctive features.

Jordanian Urban and Rural speakers were also recognisable in Arabic speaking style (76 and 73 times, respectively) because the number of listeners from each dialect in Jordan is very high (see table 4.8, in Chapter 4). The listeners' familiarity and experience with each dialect have meant successful identification, based on phonological features. This corroborates with geographical proximity and origin factors during dialect identification (Baker et al., 2009; Montgomery, 2012). However, the varieties were not identified as accurately as those used by Egyptian, Moroccan and Iraqi speakers; although most listeners are from Jordan (see table 4.5 in Chapter 4), their dialects resemble each other, and the speakers are males. Kerswill and Williams (2002) stated that different voices from the same town would not be recognised at the same rate.

Overall, the Jordan Bedouin speaker was the least identified at 52 times, as shown in table 6.3. The potential reason for being the least identified is that he was identified 35 times as Saudi and 22 times as Kuwaiti, proving that the Jordan Bedouin variety shares some phonological features with the Saudi and Kuwait Arabic varieties.

The Lebanese variety was also successfully recognised in the Arabic speaking style because it is considered the most prestigious and classy in the Arab world (see Hachimi, 2015, pp. 53-54). It has distinctive phonological features and lexical variation, which led the Arab listeners to identify it correctly. However, this identification was accompanied by being successfully thought to be Syrian, as shown in table 6.3. The result shows that the Lebanese speaker was correctly identified but confused with the Syrian variety, as Montgomery (2012, p. 661) states, might be due to "the large perceptual effect of the border". As shown in table 4.5 in the methodology chapter, the number of Lebanese listeners is 3 compared to 13 Syrian listeners. These recognition rates are likely to reflect the general familiarity the listeners have had with, e.g., the Syrian variety, caused by exposure to watch Syrian television, but also including exposure to Syrian songs, series, soap operas, and media. There are several reasons why the Lebanese speaker is thought to be Syrian: first, most listeners are from Jordan and the Jordan-Syria border is approximately 360 km in length. Second, in terms of social contact, many Syrian families and labourers have lived and worked in Jordan from the 1930s onwards (Al-Wer, 2007b). Third, Jordanian students regularly seek to study in Syria as university education is free. Fourth, it is easy to visit Syria at any time, without requiring a visa, and the distance between the nearest city in Jordan and

the nearest town or city in Syria is 13 kilometres. Finally, since the revolution of Syria occurred in 2011, many Syrians fled to Jordan, so there is daily face-to-face communication with the Syrian people. The Lebanese accent resembles the Syrian variety because of geographical proximity (Montgomery, 2007, 2012), but also both nations have an adjacent border and strong social relations. The Lebanese and Syrian people are also used to easily visiting each other at any time without a visa, which results in Lebanese features more or less overlapping with Syrian features.

When using the Arabic reading style, the Lebanese speaker was also correctly identified 62 times but was thought to be Syrian 65 times. The Lebanese speaker was correctly identified in the Arabic reading style because he applied his regional features to the Arabic reading style instead of using Standard features. The listeners confused the Lebanese speaker with Syrian because of the lack of familiarity with the Lebanese accent. If the speaker was a female, the identification might have changed (to be highly recognised and identified).

The Lebanese speaker was incorrectly identified in English of both styles. He was successfully identified in Arabic of both styles and was identified as Syrian; he also was thought to be Syrian in English. By looking at table 6.5, he was 11 times identified as Lebanese, but 14 times as Jordan Urban and 38 times as Syrian in the English speaking style. In table 6.6, he was identified 13 times as Lebanese but 41 times as Syrian in English reading style.

In this study, I examined the effect of proximity and cultural prominence on listeners' language variety recognition in Arabic varieties spoken in Egypt, Jordan, Iraq, Lebanon, and Morocco. Also, I examined the impact, the presence or absence, of linguistic factors such as phonological features and lexical items on the perception of dialect identification. The perceptual dialectology is argued to be facilitated by listeners' successful identification of an accent in relation to many factors: geographical proximity, region of origin, and an amount of experience and/or exposure to a variety (Baker et al., 2009; Montgomery, 2012). Other factors that played a crucial role in perceptual dialectology in identifying dialects are media awareness and travel awareness (Montgomery, 2007).

Each Arabic variety is distinctive, but some Arabic varieties overlap with other neighbouring varieties, such as the Syrian and the Lebanese, Kuwaiti and Iraqi, Jordanian and Palestinian, Moroccan and Algerian, etc. While the Iraqi Arabic and the Syrian Arabic varieties are different in all aspects, e.g., voice, accent, pitch, lexical items, phonology, and phonetics, they overlap linguistically due to genealogical and language contact (Albirini,

2016, p. 30). For example, the dialect spoken in Deir ez Zur city, located in eastern Syria, is closer to the dialect found in western Iraq than in Syria because the speaking community descends from the Zubaid tribe (ibid.2016, p.30). Also, Daraa city in south-western Syria, located about 90 kilometres south of Damascus (the capital of Syria) and located 13 kilometres north of Jordan's border, is historically part of the Hauran region,[8] and so speakers from Daraa tend to be linguistically closer to the Jordanian Rural dialect than varieties used in other Syrian cities. Moreover, the Jordan Bedouin Arabic variety contains many features is found in Saudi Arabia variety, particularly those spoken in the bordering cities. Indeed, many listeners thought the Jordan Bedouin speaker is Saudi. The Moroccan Arabic variety resembles, to a certain degree, the Algerian Arabic variety. They both can seem unintelligible and incomprehensible to Middle Eastern Arab people (Hachimi (2015), and Middle Eastern people find it hard to distinguish between the Moroccan and the Algerian varieties unless they are familiar with the varieties and socially communicate with speakers of these varieties, establishing contact and familiarity.

Zhang (2010) states that lack of familiarity with or exposure to such varieties may lead to misidentification, and as mentioned above, this would likely affect the reliability and validity of results. Montgomery (2012) claims that geographical proximity plays a crucial role in correctly identifying 'near to' or 'home' dialects than 'far away' places. I argue that the lack of familiarity with or exposure to such Arabic varieties has significantly affected dialect recognition in Arabic speaking or Arabic reading styles. For example, Iraqi Arabic, which represents 'near to', was highly identified. On the other hand, Morocco Arabic, which represents 'far away', was also accurately identified in Arabic speaking style. However, the Jordan Bedouin variety representing 'near to' was the least identified in the Arabic speaking style.

Moreover, in English of both styles, it was difficult, in general, to identify the speakers' nationality because the speakers and the listeners come from the same L1 background, Arabic, except for the Egyptian speaker. It would be more meaningful if listeners were asked about the speakers' ethnicity when talking in English if several nationalities represented different languages. In this case, Arab listeners can tell whether the speaker is Arab or of any other ethnicity, such as European, Asian or Indian. Also, listeners could be asked if the speaker is a native speaker of English or not.

[8] Hauran or Houran is a region that spans parts of southern Syria and northern Jordan. https://en.wikipedia.org/wiki/Hauran

The recognition of a variety or dialect seems dependent on language use and social connections with groups rather than linguistic information. Williams et al. (1999, p. 348) pointed out that "recognition a variety" is a complex process, and the recognition of a variety or a dialect is formed of "that same cluster of affective and evaluative processes".

Hence, the above section sought to answer the variety identification question and determine why listeners successfully identified the speakers in Arabic speaking style rather than in Arabic reading style and the English language in both styles, and why the Egyptian variety was the easiest to identify. The Arabic reading style's low recognition rate indicates that the speakers applied the standard features correctly, except for the Egyptian speaker. In the next section, I investigated listeners' attitudes towards the investigated varieties in terms of status and solidarity, and whether being (mis)identified affects the ratings. Models showed no convergence because Egypt was always correctly identified, so Egypt was removed to make data more balanced and show convergence.

6.2 Variation in speech perception: Language attitudes

This section looked at every characteristic (standard, education, masculine, kind, comprehensibility, accented, and job). Then I looked at Arabic reading, Arabic speaking, English reading and English speaking styles individually. The characteristics that show significance in the Arabic reading style are standard, education and masculine, kindness, and job traits were converged but did not show significance. For Arabic speaking style, no characteristics were converged except for that of masculine that showed no significance. Regarding the English reading style, standard and education traits converged but did not show significance; masculine, kind, and job did not converge. In contrast, standard and kind traits were converged and showed significance in the English speaking style, whereas education was converged but showed no significance; masculine and job were not converged. Table 6.12 below summarises which variety in each language and style is significant. Some models failed to converge, and some models did converge but showed no significant interactions; these models will be included in this chapter. However, plots that showed convergence and significant interactions will be included in this chapter, and the models of significant interactions will be in Appendix E.

To answer research questions two and three, I determine whether it matters if listeners identify the variety correctly or not. For example, if a listener identifies a speaker's variety, they may rate them high or low based on their attitudes towards these varieties or accents. Also, I will look at differences in ratings between Arabic and English and between

styles, e.g., reading vs speaking; yes, it does affect ratings for Arabic but not for English. Also, I looked at what social variables affect the ratings and looked at the interaction between them.

I shall attempt to interpret the findings generated from the four experiment parts of the questionnaire. First, I shall investigate listener attitudes towards each variety of Arabic and Arabic-accented English from the perspective of solidarity and status. Second, the discussion of the 'solidarity' rating presents the evaluations of solidarity traits, and the evaluations of 'status' rating present the evaluations of status traits. In question three, I looked at listener attitudes in terms of comprehensibility and accentedness. As outlined above, the Egyptian variety was removed to make the data more balanced because the Egyptian variety was almost always identified correctly.

6.2.1 Solidarity and Status traits

The solidarity and status rating of each variety of Arabic and Arabic-accented English comes from the ratings on the following traits: standard, education, masculine, kind traits and job employment. In this section and the next section, I investigated listeners' attitudes towards each variety of Arabic and Arabic-accented English from the perspective of two dimensions, status and solidarity, and in terms of perceived comprehensibility and accentedness perception. For example, I investigated if there were any differences in ratings between styles and languages, and/or if the rating is right or wrong, would it affect the attitude scores when the variety is correctly or incorrectly identified? The figures below answer this question.

Lindemann (2000, p. 27) shows that "the supposed characteristics of the language may be directly associated with the supposed characteristics of the people, even if the listeners have not identified them correctly". In this section, I first begin the analysis of listener attitudes towards the solidarity and status traits of two speech varieties of Arabic and Arabic-accented English of two styles (reading and speaking), by showing whether there is any difference between styles or languages and whether the judgement of the speakers' accents is affected by being correctly identified or not.

The models below show the overall ratings, whether correctly identified or not, but it did not show speakers who are confused with other speakers. Therefore, I will include some violin plots where needed to indicate where speakers are confused with other misidentified speakers.

Overall, the figures focus on speakers being correctly and incorrectly identified, without showing speaker misidentification confusion; for example, the Moroccan speaker is always confused with the Algerian in Arabic, but in English, the confusion expands to include other nationalities.

The question related to status and solidarity is:

Q2- Do listeners assign different semantic characteristics towards speakers when speaking in:

A spoken Arabic

B standard Arabic

C spoken English

D read English

To address this question, listeners were presented with four audio clips recorded by Arab speakers in Arabic and English in reading and speaking styles (see section 4.2.7, Chapter 4). For each audio language and style sample, listeners were asked to rate each speaker on status (standard, educated, job) and solidarity (masculine, and kind) related questions (see table 4.9, Chapter 4). The description of the results is followed by a general discussion summarizing the findings. There were no significant interactions of Arabic reading and speaking styles and no significant interactions of English reading and speaking styles. To overcome this issue, the Egyptian variety, as mentioned above, was removed from the analysis because it was correctly identified in Arabic and English of both styles and because of the predominant influence of the Egyptian media. After removing the Egyptian variety, there were only significant interactions of Arabic reading style and English speaking styles. The Arabic speaking style and English reading style showed no significant interactions. I will only include the significant interactions of Arabic reading and English speaking styles in this chapter.

6.2.2 The status and solidarity ratings for Arabic Reading style

The overall ratings of solidarity and status ratings did not include all the traits and styles but included the ones that showed significant interactions for each Arabic variety generated from the ratings on standard, education, and masculine traits in the Arabic reading style. The

rest of the traits did not converge or show significance, so they are not included. Arabic reading style was always ranked higher than the Arabic speaking style.

I first looked at the rating of standard, then education, and finally masculine traits in the Arabic reading style. Figures 6.9, 6.10, and 6.11 below illustrate how listeners evaluated speakers' voices and accents depending on whether they were correctly or incorrectly identified.

6.3 Statistical analysis and the results for solidarity and status traits of Arabic.

A mixed effects model was run to examine the effect of the fixed variables on Arabic and English languages in reading and speaking styles responses, in terms of status and solidarity-related traits. I tested the relationship and the interactions between all the main fixed effects. I included ResponseId and question as random effects to control multiple responses per listener. Models that showed no significant relationships, interactions, or models that failed to converge were removed, and the model was rerun until the best model was achieved. The final syntax for the successful model is given below. The status and solidarity traits were treated as dependent variables. I tested the following fixed effects and made clear what each descriptive term means:

- **Listener age group**: listeners were split into five groups: '18-30', '31-40', '41-50', '51-60', and '61+'.
- **Sex of the listener**: 'male', 'female'
- **Education** is split into five groups; 'Ph.D', 'Masters', 'Bachelors', 'College', and 'Other'.
- **Language**: 'Arabic' and 'Arabic-accented English'.
- **Style**: 'reading' and 'speaking'.
- **Correct dialect**: 'Egypt', 'Iraq', 'Jordan Urban', 'Jordan Rural', 'Jordan Bedouin', 'Lebanon' and 'Morocco'.
- **Correct answer given**: 'correct' or 'incorrect' variety
- **From Jordan**: listeners are from Jordan and not from Jordan
- **Same dialect**: listeners from the same variety

I only included the significant characteristics and will start with the Arabic reading style.

6.3.1 Statistical Analysis and the ratings for Standard Arabic reading style.

The 798 observations from 133 responses on Arabic reading style, including characteristics of Standard, educated, and masculine as dependent variables were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al. (2014), implemented in R (R Core Team, 2018). I tested the following fixed effects (correct dialect, correct answer given, sex, age, and education). Interactions between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects/interactions that failed to reach significance (p-value>0.05) or showed no convergence in a model were removed, and the model was rerun. The age, sex, education, and same dialect showed no significance, and some failed to converge. The models that showed convergence and significance were kept. The final model included the interaction of *correct answer given* (correct or incorrect variety) and *correct dialect* (varieties under study in study 2*)* was retained in all models. The best-fitted models were found to be the given ones below, which had the fixed effects of two-way interactions between correct answer given and correct dialect. The varieties included in the plots are Iraq, Jordan Bedouin, Jordan Rural, Jordan Urban, Lebanon and Morocco. I included only the model with interactions.

Table 6.10: Output of linear mixed model for Standard Arabic reading in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	5.60E+00	1.12E+00	7.41E-08	5.006	1	
correct.answer.givencorrect	-3.95E-01	2.66E-01	7.09E+02	-1.483	0.13842	
correct.dialectJordan Bedouin	-2.09E+00	1.58E+00	7.32E-08	-1.326	1	
correct.dialectJordan Rural	-5.19E-01	1.58E+00	7.33E-08	-0.329	1	
correct.dialectJordan Urban	-5.77E-01	1.58E+00	7.37E-08	-0.366	1	
correct.dialectLebanon	-2.54E+00	1.58E+00	7.37E-08	-1.607	1	
correct.dialectMorocco	-1.98E-01	1.58E+00	7.34E-08	-0.126	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	5.76E-01	3.96E-01	7.11E+02	1.455	0.14602	
correct.answer.givencorrect:correct.dialectJordan Rural	2.87E-01	3.82E-01	7.09E+02	0.75	0.45351	
correct.answer.givencorrect:correct.dialectJordan Urban	9.81E-01	3.52E-01	7.06E+02	2.792	0.00539	**
correct.answer.givencorrect:correct.dialectLebanon	1.05E-01	3.51E-01	7.06E+02	0.299	0.76526	

correct.answer.givencorrect:correct.dialect Morocco	5.68E-01	3.66E-01	7.08E+02	1.552	0.12114	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.10 shows a significant effect of two-way interactions of a correct answer given and correct dialect with a P-value of 0.00539. The positive 'estimate' column indicates that the Jordan Urban speaker was rated more positive when correctly identified than when incorrectly identified.

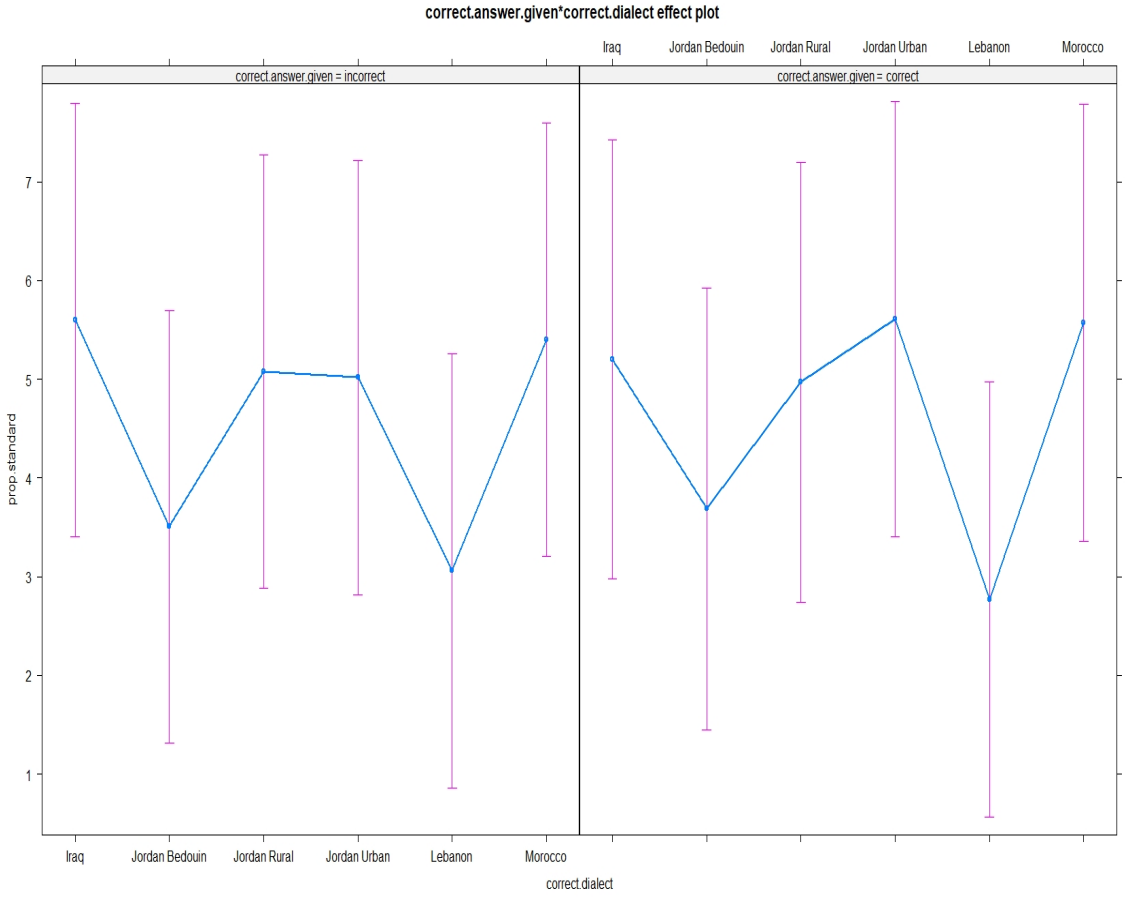

Figure 6.9: model ratings for Standard trait, showing the interactions of correct.answer.given and correct.dialect in Arabic reading style.

Figure 6.9 shows the interaction between the correct answer given and the correct dialect. It also shows if speakers have had different ratings when correctly or incorrectly identified. In this figure, the Y-axis represents the Standard trait, while the X-axis represents the varieties under study. The model shows listeners' responses to the question 'how standard do you think this speaker sounds?' in Arabic reading style when the speaker is incorrectly and correctly identified. As can be seen, some varieties scored high and some scored low. The

Lebanese and Jordan Bedouin speakers were scored the least when correctly identified and incorrectly identified than other varieties. However, findings show that there was no difference whether you get the answer correct or not, except for the Jordan Urban speaker who was rated as being more standard when correctly identified than when incorrectly identified. However, the Iraqi speaker was scored higher when incorrectly identified than correctly identified, but this did not show a significant effect in the model. This could be that there are not enough Iraqi listeners' responses for the number of listeners from each country (see table 4.5, Chapter 4). Overall, listeners' ratings did not significantly affect the results for several reasons. First, the Standard trait rating in figure 6.9 and the other traits in other figures and tables did not significantly affect listeners' ratings whether listeners were from the same region or not. Secondly, listeners based their results on the accent of the speaker regardless of whether they got the answer correct or not. Thirdly, listeners' ratings were based on how often and much each language variety was confused with other varieties, e.g., the Lebanese variety was almost always confused with the Syrian variety; however, listeners' ratings as to whether they correctly identified the Lebanese speaker, or thought he was a Syrian speaker, did not affect the ratings, as can be seen in table 6.6 to 6.9 above.

6.3.2 The rating for Education in Arabic reading.

Table 6.11 below shows the summary for the final model of education in Arabic reading style when listeners were asked to answer the question "how educated does the speaker sound?"

Table 6.11: Output of a linear mixed model for Education Arabic reading in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	5.69E+00	1.08E+00	9.72E-08	5.246	1	
correct.answer.givencorrect	-4.88E-01	2.61E-01	7.09E+02	-1.871	0.0617	.
correct.dialectJordan Bedouin	-2.03E+00	1.53E+00	9.60E-08	-1.325	1	
correct.dialectJordan Rural	-7.53E-01	1.53E+00	9.61E-08	-0.493	1	

correct.dialectJordan Urban	-6.60E-01	1.53E+00	9.67E-08	-0.431	1	
correct.dialectLebanon	-2.51E+00	1.53E+00	9.67E-08	-1.641	1	
correct.dialectMorocco	-8.58E-03	1.53E+00	9.62E-08	-0.006	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	4.83E-01	3.88E-01	7.10E+02	1.244	0.2138	
correct.answer.givencorrect:correct.dialectJordan Rural	2.81E-01	3.75E-01	7.09E+02	0.75	0.4535	
correct.answer.givencorrect:correct.dialectJordan Urban	9.75E-01	3.45E-01	7.05E+02	2.829	0.0048	**
correct.answer.givencorrect:correct.dialectLebanon	3.22E-01	3.45E-01	7.05E+02	0.936	0.3497	
correct.answer.givencorrect:correct.dialectMorocco	5.02E-01	3.59E-01	7.07E+02	1.397	0.1629	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.11 shows the effect of significant interactions of correct answer given and the correct dialect. The model shows that the Jordan Urban variety was significant with a p-value of 0.0048. The positive sign in the 'Estimate' column (9.75E-01) shows that the Jordan Urban sounded more educated when correctly identified, than when incorrectly identified. The significant effect is shown in figure 6.11. The next figure shows how listeners responded to the question 'how educated do you think the speaker sounds?'

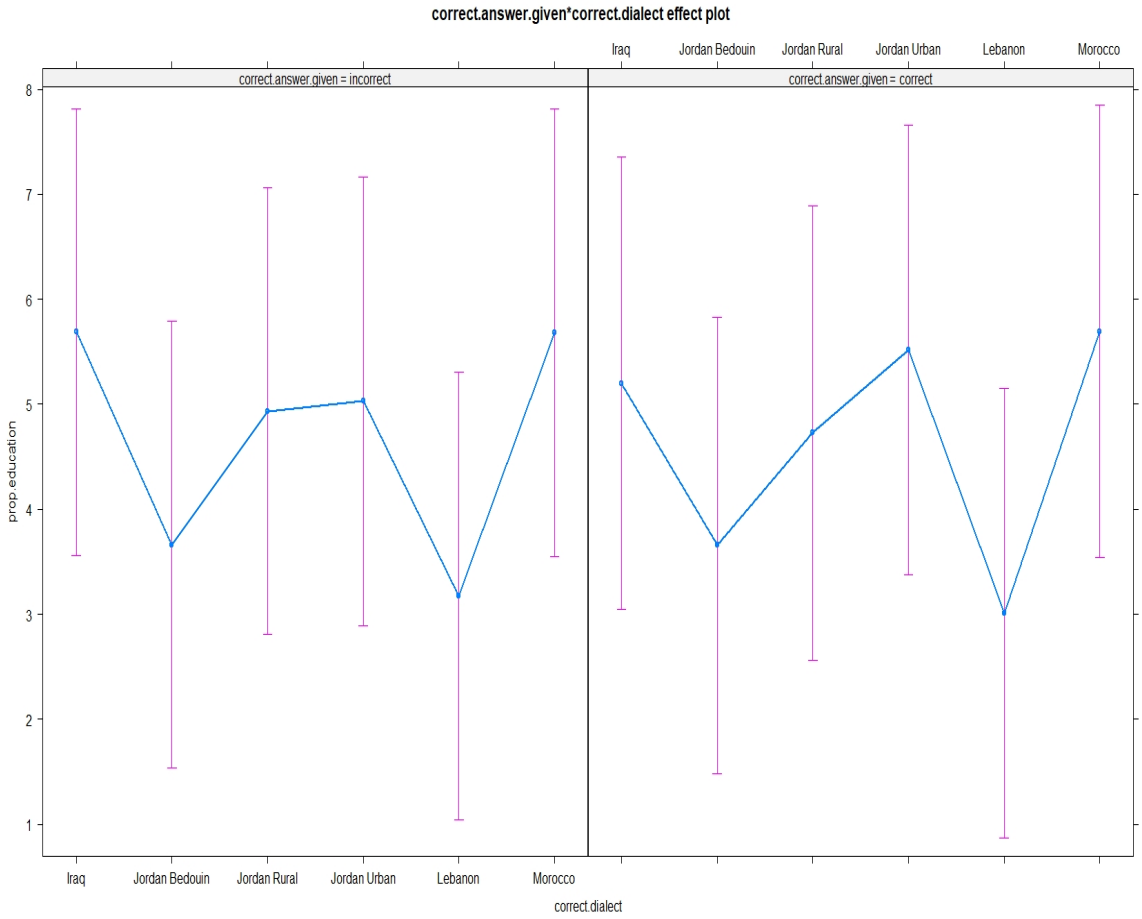

Figure 6.10: model ratings for education trait, showing the interactions of correct.answer.given and correct.dialect in Arabic reading style.

Figure 6.10 shows the interaction between the correct answer given and correct dialect. It is somewhat similar in its shape to figure 6.9 above. The Y-axis represents the education trait, while the X-axis represents the varieties under study. The model shows how listeners responded to the question 'how educated do you think this speaker sounds?' in Arabic reading style when the speaker is incorrectly and correctly identified. As can be seen, the Lebanese and the Jordan Bedouin speakers always scored low, whether identified correctly or not. The figure also shows no differences whether you get the answer incorrect or correct, except with the Jordan Urban speaker. This means that the Jordan Urban speaker was rated more educated when correctly identified, than when he incorrectly identified (see sections 2.6.2 and 2.6.3, Chapter two; also section 5.2.1.2 in Chapter five).

6.3.3 The rating for Masculine in Arabic reading.

Table 6.11 below shows the summary for the final model interaction of masculine trait in Arabic reading style when listeners were asked to answer the question "how masculine do you think the speaker sounds?"

Table 6.12: Output of linear mixed model for Masculine Arabic reading in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	5.73E+00	8.23E-01	3.30E-08	6.961	1	
correct.answer.givencorrect	-3.90E-01	2.46E-01	6.96E+02	-1.589	0.1125	
correct.dialectJordan Bedouin	-9.93E-01	1.16E+00	3.22E-08	-0.858	1	
correct.dialectJordan Rural	-2.39E-01	1.16E+00	3.22E-08	-0.206	1	
correct.dialectJordan Urban	-6.14E-01	1.16E+00	3.25E-08	-0.53	1	
correct.dialectLebanon	-1.92E+00	1.16E+00	3.25E-08	-1.655	1	
correct.dialectMorocco	-8.88E-02	1.16E+00	3.23E-08	-0.077	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	8.80E-01	3.66E-01	6.97E+02	2.406	0.0164	*
correct.answer.givencorrect:correct.dialectJordan Rural	3.74E-01	3.53E-01	6.96E+02	1.059	0.2899	
correct.answer.givencorrect:correct.dialectJordan Urban	6.71E-01	3.25E-01	6.93E+02	2.069	0.0389	*
correct.answer.givencorrect:correct.dialectLebanon	-4.46E-02	3.24E-01	6.93E+02	-0.138	0.8907	
correct.answer.givencorrect:correct.dialectMorocco	4.54E-01	3.38E-01	6.94E+02	1.342	0.1799	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.12 shows Jordan Bedouin's significant interactions with a P-value of 0.0164 and Jordan Urban dialect with a P-value of 0.0389. The positive sign in the 'Estimate' columns for the Jordan Bedouin speaker and the Jordan Urban speaker indicates that they had positive ratings when correctly identified than when incorrectly identified. The figure below shows

how listeners responded to the question ‘how masculine do you think the speaker sounds?’ when reading in standard Arabic.

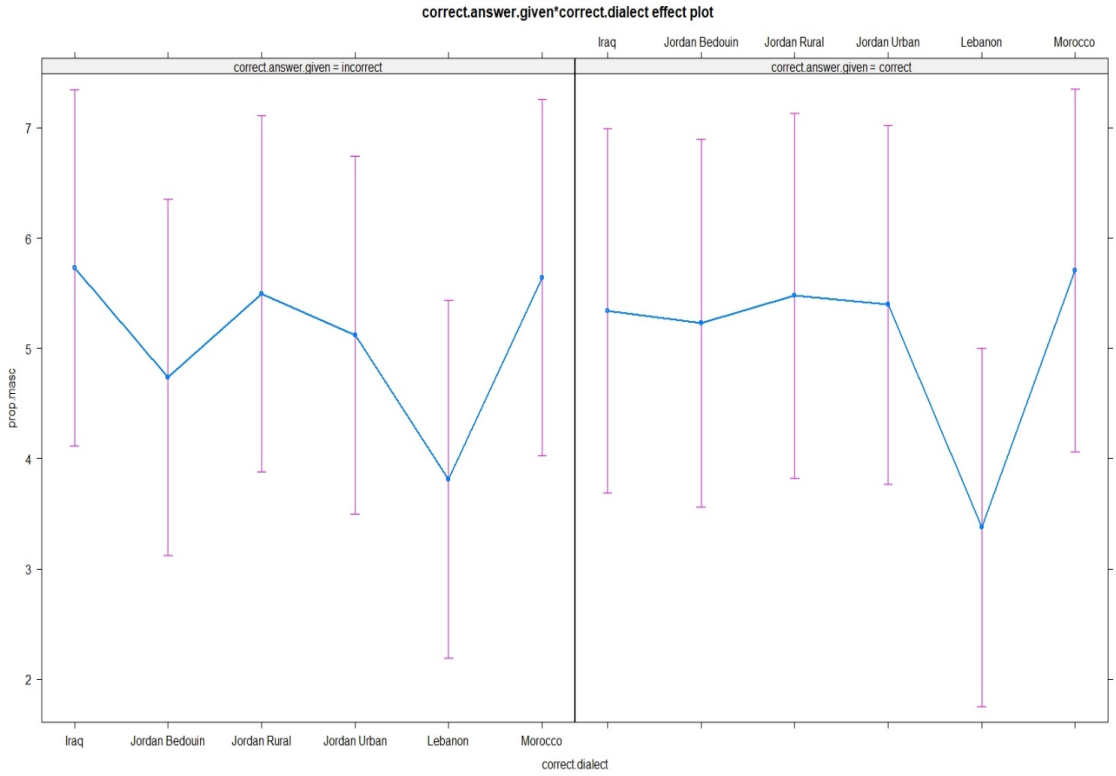

Figure 6.11: showing rating of masculinity interactions of correct.answer.given and correct.dialect in Arabic reading style.

Figure 6.11 shows the interaction between the correct answer given and correct dialect. The Y-axis represents the masculine trait, while the X-axis represents the varieties under study. The model shows how listeners responded to the question ‘how masculine do you think this speaker sounds?’ in Arabic reading style when the speaker is incorrectly and correctly identified. As can be seen, Lebanon seems to be rated the least masculine, whether incorrectly or correctly identified. Overall, the figure shows no differences in ratings whether listeners got the answer correct or not, except with the Jordan Urban and Bedouin speakers. This means the more listeners correctly identify Jordan Urban and Bedouin speakers, the higher the speakers are rated on masculinity, than when incorrectly identified.

6.4 The solidarity and status ratings for each variety of English

The solidarity and status ratings for each variety of English in both styles were generated from the ratings on solidarity traits of masculine and kind, and status traits of standard, education, and job. In the English reading styles, standard and education characteristics were

converged but were not significant; the rest of the traits of masculine, kind, and job were not converged. In contrast, there were only significant interactions of the status trait of Standard and solidarity trait of kind in English speaking style; the rest of the traits showed no significant interactions and no convergence.

6.4.1 Statistical analysis and the ratings for Standard English speaking style

The 588 observations from 98 responses on English speaking style, including characteristics of Standard (status), and Kind (solidarity) as dependent variables were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014), implemented in R (R Core Team, 2018). The fixed effects (correct dialect, correct answer given, sex, age, and education), and the interactions between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects/interactions that failed to reach significance (p-value>0.05) or showed no convergence in a model were removed, and the model was rerun. The age, sex, education, same dialect and from Jordan showed no significance, and some failed to converge. The models that showed convergence and significance were kept.

The final model included the interaction of *correct answer given and correct dialect*, which was retained in all models. The best-fitted models were found to have the fixed effects of two-way interactions between correct answer given and correct dialect. The varieties included in the plots are Iraq, Jordan Bedouin, Jordan Rural, Jordan Urban, Lebanon and Morocco. I included only the model with interactions.

Table 6.13: Output of linear mixed model for Standard English-speaking style in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	4.33E+00	6.82 E-01	1.50E-08	6.342	1	
correct.answer.givencorrect	-4.68E-01	3.72 E-01	5.11E+02	-1.26	0.2081	

correct.dialectJordan Bedouin	-1.66E+00	9.57E-01	1.45E-08	-1.735	1	
correct.dialectJordan Rural	-4.16E-01	9.58E-01	1.45E-08	-0.434	1	
correct.dialectJordan Urban	-6.48E-01	9.58E-01	1.46E-08	-0.676	1	
correct.dialectLebanon	-3.91E-01	9.56E-01	1.44E-08	-0.409	1	
correct.dialectMorocco	1.63E-01	9.55E-01	1.44E-08	0.17	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	-8.36E-02	4.82E-01	5.17E+02	-0.173	0.8624	
correct.answer.givencorrect:correct.dialectJordan Rural	5.27E-01	4.58E-01	5.14E+02	1.151	0.2502	
correct.answer.givencorrect:correct.dialectJordan Urban	1.10E+00	4.53E-01	5.13E+02	2.431	0.0154	*
correct.answer.givencorrect:correct.dialectLebanon	7.59E-01	5.26E-01	5.12E+02	1.441	0.1501	
correct.answer.givencorrect:correct.dialectMorocco	1.18E-01	6.12E-01	5.10E+02	0.193	0.8471	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.13 presents the final model for Standard in English speaking style. The model shows a significant interaction of Jordan Urban speaker with a P-value of 0.0154. The positive value in the 'Estimate' column for Jordan Urban speakers indicates that the speaker sounded more standard when correctly identified.

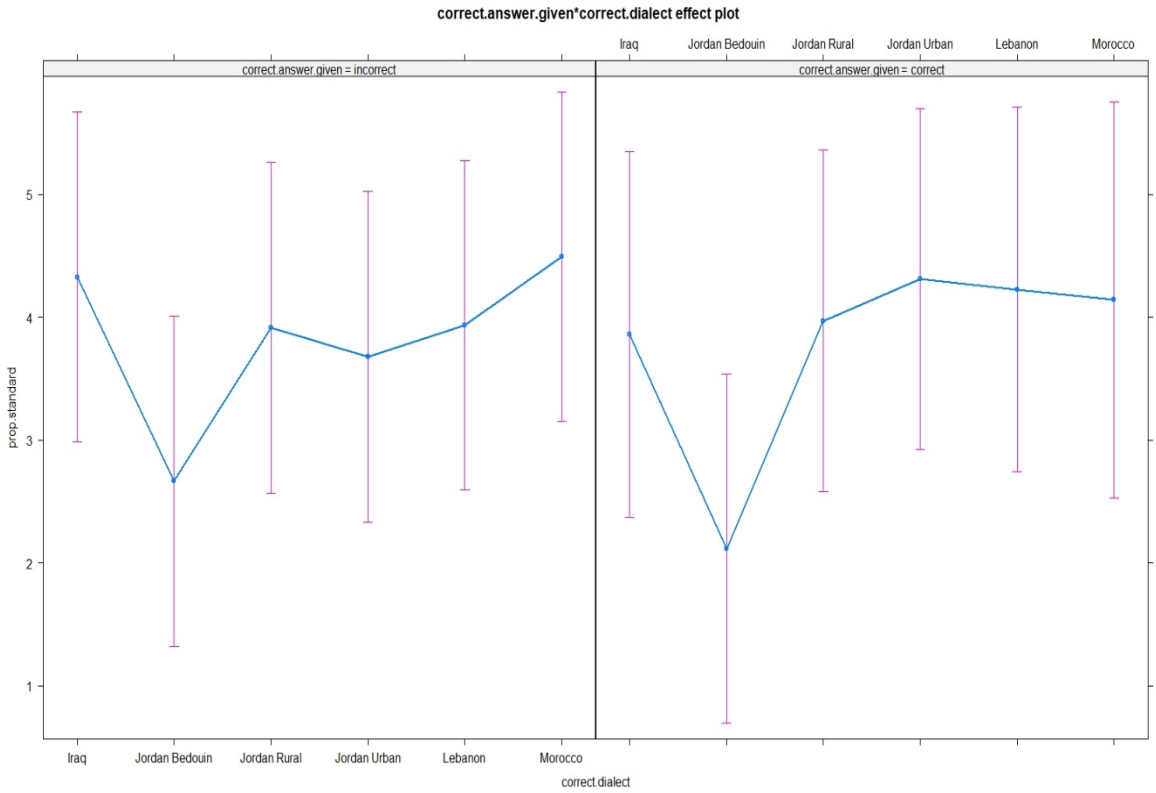

Figure 6.12: showing rating of standard interactions of correct.answer.given and correct.dialect in English speaking style.

Figure 6.12 shows an interaction between the correct answer given and correct dialect. The Y-axis represents the Standard trait, while the X-axis represents the investigated varieties. The model shows how listeners responded to the question 'how Standard do you think this speaker sounds?' in English speaking style when the speaker is incorrectly and correctly identified. As can be seen, the Jordan Bedouin speaker seems to be scored the least whether correctly or incorrectly identified. Overall, there seem to be no differences in ratings whether you get the answer correct or not, except with the Jordan Urban speaker who was scored higher on the standard when correctly identified.

6.4.2 The rating of Kind in English speaking style

Table 6.14 below shows the summary for the final model interaction of kind trait in English speaking style when listeners were asked to answer the question "how kind do you think the speaker sounds?"

Table 6.14: Showing rating of kind interactions of correct.answer.given and correct.dialect in English speaking style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	4.69E+00	4.91 E-01	1.18E-08	9.542	1	
correct.answer.givencorrect	-5.90E-01	3.40 E-01	5.04E+02	-1.736	0.08317	.
correct.dialectJordan Bedouin	-1.29E+00	6.81 E-01	1.09E-08	-1.891	1	
correct.dialectJordan Rural	-3.92E-01	6.82 E-01	1.09E-08	-0.574	1	
correct.dialectJordan Urban	-4.81E-01	6.82 E-01	1.09E-08	-0.705	1	
correct.dialectLebanon	-3.09E-01	6.80 E-01	1.08E-08	-0.455	1	
correct.dialectMorocco	-8.38E-02	6.79 E-01	1.08E-08	-0.123	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	3.62E-01	4.42 E-01	5.09E+02	0.819	0.41296	
correct.answer.givencorrect:correct.dialectJordan Rural	7.71E-01	4.19 E-01	5.06E+02	1.84	0.06639	.
correct.answer.givencorrect:correct.dialectJordan Urban	9.23E-01	4.14 E-01	5.05E+02	2.227	0.02637	*
correct.answer.givencorrect:correct.dialectLebanon	1.30E+00	4.82 E-01	5.05E+02	2.697	0.00722	**
correct.answer.givencorrect:correct.dialectMorocco	2.09E-01	5.60 E-01	5.03E+02	0.373	0.70905	

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.14 presents the final model for Kind in English speaking style. The model shows a significant interaction for Jordan Urban speaker with a P-value of 0.02637, and Lebanon speaker with a P-value of 0.00722. The positive value in the 'Estimate' columns for Jordan

Urban and the Lebanese speakers indicated that they sounded more kind when correctly identified.

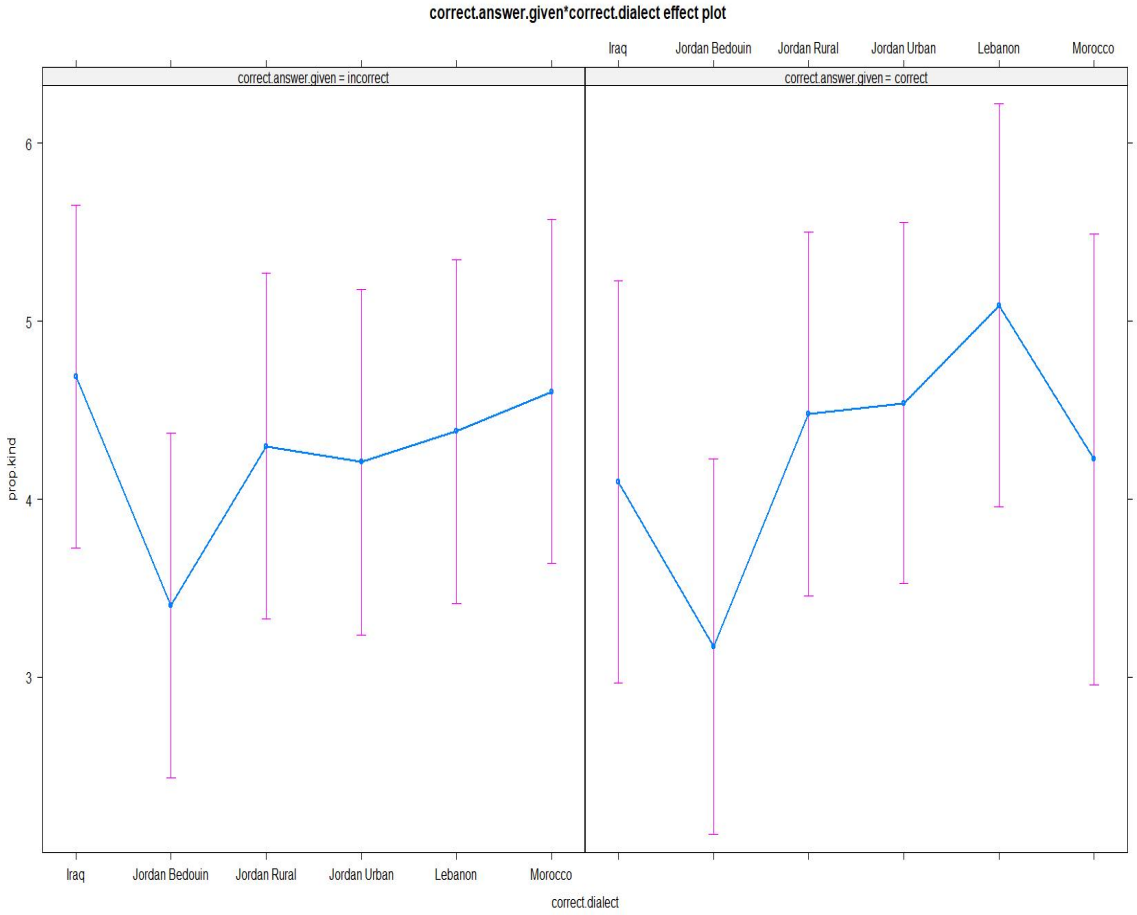

Figure 6.13: model ratings for kind accents, showing the main effects and interaction effects of correct.answer.given, correct.dialect in English speaking style

Figure 6.13 shows an interaction between the correct answer given and correct dialect. The Y-axis represents the Kind trait, while the X-axis represents the varieties under study. The model shows how listeners responded to the question 'how Kind do you think this speaker sounds?' in English speaking style when the speaker is incorrectly and correctly identified. As shown, the Jordan Bedouin speaker scored the least kind whether he was correctly or incorrectly identified. Overall, there seems no differences in ratings whether you get the answer correct or not, except with the Lebanese and the Jordan Urban speakers who scored higher on kind when correctly identified.

In general, the overall picture shows that the ratings among speakers of different varieties, whether correctly or incorrectly identified, matter when correctly identified. It

matters that the listeners were more accurate in identifying the speaker's nationality from short audio stimuli in Arabic more than in English, and in Arabic speaking style more than in Arabic reading style, as can be seen in the confusion matrix in tables 6.6 to 6.9 above. Social variables such as age, sex, education, listeners from the same dialect, and listeners from Jordan were not significant and failed to converge.

The table below summarises what characteristics were statistically significant and made the difference and which were not. The following abbreviations will be used in the table below:

NC: No convergence

NS: No significant

Irq: Iraq

JB: Jordan Bedouin

JR: Jordan Rural

JU: Jordan Urban

Leb: Lebanon

Mo: Morocco

Table 6.15: Significant characteristics by language and style

Characteristics	A.Reading	A.Speaking	E.Reading	E.Speaking
Standard	JU	NC	NS	JU
Education	JU	NS	NS	NS
Masculine	JB+JU	NS	NC	NC
Kind	NS	NC	NC	JU +Leb
Job	NS	NC	NC	NC
Comprehensibility	NC	NC	NC	NC
Accented	NC	Mo	Mo	NS

In the next section, I will discuss the results of question two regarding the solidarity and status dimensions, to determine whether or not the speaker's identification or misidentification affected listener ratings.

6.5 General discussion of research question two: Do listeners assign different semantic characteristics towards speakers when speaking in:

A spoken Arabic

B standard Arabic

C spoken English

D read English

And does it matter if they correctly identify the dialect? The investigation of listeners' attitudes towards Arabic varieties and Arabic-accented English varieties under study are based on speakers' stimuli. As listeners' attitudes and ratings are implicit and covert (Lindemann, 2000; Zhang, 2010), an indirect approach of attitude, namely, the verbal-guise technique, was employed to investigate Arab listeners' perceptions of the seven varieties of Arabic and Arabic accented English: Egyptian, Iraqi, Jordan Urban, Jordan Rural, Jordan Bedouin, Lebanese, and Moroccan. Using a 7-point semantic differential scale, this research instrument searched for collecting judgments regarding the speakers' characteristics that represent these varieties on 5 characteristics (masculine and kind for solidarity, standard, education, and job for status).

As mentioned in section 2.5 of chapter 2, the semantic differential-scales were used to obtain the speakers' ratings. There are significant differences between speakers' ratings in Arabic (reading vs. speaking) and Arabic-accented English (reading vs. speaking) styles. However, statistically speaking, in this section, there were only limited interactions between some of the characteristics (DV) and correct answer given and correct dialect as independent variables. Not all the styles and traits were converged or had significant interactions. There were only, e.g., Arabic reading style (standard, education, and masculinity), and English-speaking style (standard and kind) that converged, showing significant interactions. Only converged models in both languages and styles were presented. The results confirm the findings of previous research that focused on listeners' attitudes towards Standard Arabic, colloquial Arabic varieties, Arabic-accented English, and other foreign languages (Al-Kahtany, 1997; Al-Raba'a, 2016; Albirini, 2016; El-Dash & Tucker, 1975; Hachimi, 2015; Herbolich, 1979; Hussein & El-Ali, 1989; Sawaie, 1987; Shaaban & Ghaith, 2002). The regional features of a language variety, particularly in Arabic, are significant factors in

judging personality from the voices. Sawaie (1987) shows that the standard speech sound enjoyed high social status and was judged to have the highest level of education.

In the discussion section, I will discuss the findings of question two and compare them with previous research studies. Also, I will discuss whether speakers being identified correctly or not affected their ratings, and whether applying correctly the Arabic Standard variants affected their ratings. Overall, speakers were rated higher in Arabic than in Arabic-accented English, and speakers in Arabic reading style were rated more positively than speakers in Arabic speaking style. The Jordan Bedouin speaker was rated considerably low on Standard and education characteristics when correctly or incorrectly identified in Arabic reading style. Several reasons meant he was rated low: first, he was reading fast; second, he left an impression on the listeners that he memorised the text and was not pausing where he should have been. Third, he did not properly apply the standard short vowels (diacritics) in the standard form. However, in figure 6.11, the rating is based on males' voice stimuli, e.g., the Jordan Bedouin speaker was rated the toughest in figure 5.10, but in figure 6.11, he was rated high on masculinity when correctly identified.

The Moroccan speaker was rated very high on standard, education, and masculine characteristics in Arabic reading style. However, being identified correctly or incorrectly did not affect the rating. He was rated slightly higher in English speaking style when incorrectly identified on standard and kind characteristics than when correctly identified.

The Moroccan variety does not demonstrate a general acceptance among the majority of listeners, but it was rated almost the highest on all status traits whether correctly or incorrectly identified in the Arabic reading style than in Arabic speaking style. As mentioned above, the Arabic speaking style and the English reading style are not included because they did converge.

The Lebanese speaker was rated low in Arabic speaking style but lower in Arabic reading style. Initially, I thought the listeners had negative attitudes towards the Lebanese accent, which is known to be flirtatious, sexualized, and spoiled (Hachimi, 2015), but when the Lebanese speaker was confused with other varieties, especially the Syrian, the rating was almost the same because the Syrian and the Lebanese Arabic varieties share borders and come from the Northern Levantine dialect. Also, the closest Arabic variety to the Lebanese would be the Syrian.

The Lebanese speaker in Arabic reading style on standard, education, and masculine characteristics was rated the least whether correctly or incorrectly identified. Similar findings occurred (see figure 5.10, in chapter 5), when participants were asked to rate some

Arabic varieties (accent labels only) on the tough trait, the Lebanese speaker was rated the least on toughness. It suggests that the degree of masculinity the listeners heard in the Lebanese accent was low. However, he was rated higher in English speaking style when correctly identified on standard and kind characteristics than when misidentified, but significantly the highest when correctly identified on kind characteristic.

The Iraqi speaker was always rated high in Arabic reading style on standard, education, and masculine characteristics when incorrectly identified. He was also rated higher when incorrectly identified in English speaking style on standard and kind characteristics than when correctly identified.

The Jordan Rural speaker had almost the same Arabic reading style ratings on standard, education, and masculine characteristics, but had slightly higher ratings when incorrectly rather than correctly identified. In English speaking style, on standard and kind characteristics, he was rated higher on the standard when incorrectly than correctly identified, but he was rated higher when correctly than incorrectly identified on the kind trait.

The Jordan Urban speaker on standard, education, and masculine characteristics in Arabic reading style was rated higher when correctly identified than when incorrectly identified. He was also rated higher when correctly than incorrectly identified in English speaking style on standard and kind characteristics.

Past research has employed native speaker listeners to evaluate or rate standard language varieties against non-standard varieties, or native accents against foreign accent on status and solidarity related traits, and on comprehensibility and accentedness (Coupland & Bishop, 2007; Dalton‐Puffer et al., 1997; Derwing & Munro, 1997; Dragojevic et al., 2017; El-Dash & Tucker, 1975; Garrett, 2010; Giles, 1970; Herbolich, 1979; Hiraga, 2005; Hussein & El-Ali, 1989; Lindemann, 2000; McKenzie, 2006; Munro & Derwing, 1995a). In this study, I employed speakers and listeners of the same language background: Arabic, but with different Arabic varieties. Dragojevic and Giles (2016, p. 414) have pointed out that having an incomprehensible or unintelligible accent which is difficult to understand is associated with negative stereotypes. For example, the Moroccan speaker in figures 6.14 and 6.15, below, show that when he used the standard features in his Arabic reading style, he was rated positively, but when he applied the regional features in his Arabic speaking style speech, he was rated negatively.

In this study and many other past studies, listeners were asked to rate speakers based on their speech samples (Herbolich, 1979; Hussein & El-Ali, 1989; Lindemann, 2000; McKenzie, 2006; Milroy & McClenaghan, 1977). The characteristics the listeners were asked to rate speakers on reflected the characteristics of the speakers' accents, language, and style (e.g., standard, kind, job, etc), e.g., how appropriate it is to hire a speaker to work as a news presenter, or how educated the speaker sounds when he read in different languages and styles. As shown in table 6.1 above, listeners have little experience and exposure with some varieties, such as Moroccan and Lebanese. Moreover, the listeners had difficulty identifying the Jordan Bedouin dialect even though most listeners are from Jordan. However, if this study had been carried out in one of the Arab countries except for Jordan, where larger numbers of listeners of each variety reside, listeners' attitudes and results to an extent could have changed. For example, if the study was carried out in Lebanon, most Lebanese listeners would accurately identify the Lebanese speaker's nationality, rarely confuse it with the Syrian variety, and findings could differ. Also, if it had been carried out in Morocco, the comprehensibility rating in Arabic speaking style would be high as most listeners will be Moroccan and understand their spoken variety.

Previous research studies on language attitudes worldwide found listeners rated standard language varieties more favourably than they did non-standard varieties (Dragojevic & Giles, 2016; Dragojevic et al., 2017; Garrett, 2010; Herbolich, 1979; Hiraga, 2005; Hussein & El-Ali, 1989). In these studies, listeners rely on language cues such as accent to attribute social or personal traits. The standard features in Arabic have the highest rate of approval rather than the non-standard features. Standard varieties abide by "correct" usage form in pronunciation, grammar, and vocabulary (Dragojevic & Giles, 2016, p. 398). Examples of standard varieties are Received Pronunciation English (RP) in the United Kingdom, Standard American English (SAE) in the United States, Modern Standard Arabic (MSA) in the Arab world, whereas nonstandard varieties include regional and local dialects and foreign accents (Dragojevic & Giles, 2016; Garrett, 2010). (Lindemann, 2000, 2003) assessed listeners' attitudes who evaluated Korean speakers more negatively than American English speakers. Moreover, non-native speakers were rated negatively on status features than on solidarity features, which is consistent with the general findings of previous research studies (Lindemann, 2000; McKenzie, 2006).

As shown in previous studies, foreign strong foreign-accented speakers are rated more negatively on status traits than mild-foreign accented speakers but not on solidarity traits (Dragojevic & Giles, 2016; Dragojevic et al., 2017). However, as shown in figure 6.12,

regarding the standard trait in English speaking style, some speakers have had positive evaluations when correctly identified, such as Moroccan, Lebanese, and Jordan Urban speakers. This is because they were rated by listeners who share the same language variety, and their accents in English are close to the standard and comprehensible. If we look at figures 6.9 and 6.10, it is noticed that speakers, whether correctly or incorrectly identified, received high ratings on standard and education (status) traits in Arabic reading style, except for the Jordan Bedouin and the Lebanese speakers who did not abide by the correct usage of the standard Arabic variants, and accordingly were rated negatively. The kind (solidarity) trait in figure 6.13 in English speaking style shows that speakers were rated high whether correctly or incorrectly identified, except for that of the Jordan Bedouin speaker. In figure 6.9 on masculinity (solidarity) trait in Arabic reading style, it is noticed that the speakers were rated high whether correctly or incorrectly identified, except for the Lebanese speaker.

The findings are consistent with those of a limited number of previous studies that focused on social evaluations of Arabic and Arabic-accented English, which show that Arab people favour Standard Arabic over regional varieties and dialects (El-Dash & Tucker, 1975; Eltouhamy, 2016; Ferguson, 1959a; Herbolich, 1979; Hussein & El-Ali, 1989; Kojak, 1983). This also confirms with non-Arabic studies on social evaluations, such as in regards to the English language, in which people prefer or favour Standard English varieties, such as RP and SAE, over non-standard English varieties and English–accented varieties (Lindemann, 2000; McKenzie, 2006; Munro & Derwing, 1995a; Zhang, 2010).

Interestingly, among the Arab varieties, the Moroccan variety received higher ratings than other Arab varieties as far as status traits are concerned. The high positive rating for the Moroccan variety than other Arab varieties has not been reported in past studies; it has never been studied along with other Arabic varieties except when Hachimi (2015) investigated Moroccan speakers' perceptions towards different Arab varieties on seven categories. One of the categories is to place the Arab varieties on closeness to SA, and the Moroccan variety was far from being close to SA, compared to other Arab varieties. This corroborates my findings that the Moroccan variety in the Arabic speaking style on standard trait was rated low, which confirms Ferguson (1959a) that the regional dialects are rated low and inferior. The positive ratings of the Moroccan Arabic in the Arabic reading style over the other Arabic varieties seemed to be related to the fact that the Moroccan speaker applied the standard Arabic variants. However, the Moroccan speaker was rated low on the Standard trait in the Arabic speaking style compared to other Arab varieties under study. This is confirmed by Hachimi (2015), whose findings show that the Moroccan Arabic speaker has

a short standard Arabic vocabulary.[9] A sample of Moroccan scripts in reading and speaking styles is provided below.

By looking at figure 6.6 above, it shows that some speakers were, overall, rated higher in the Arabic reading style when correctly or incorrectly identified on Education trait. The only variety that shows significance is the Jordan Urban variety; it was rated higher when correctly identified than when incorrectly identified. This study, to an extent, is in line with Al-Kahtany (1997), in that in his research, he asked 40 educated participants representing 14 Arab countries whether the regional dialects or varieties replace the MSA as a medium of instruction, particularly concerning the Damascene (capital of Syria) colloquial Arabic. Findings show that neither the Damascene variety nor other Arab varieties should replace MSA as a medium of education. A statement in appendix A says, 'Talking in an urban dialect means a speaker is educated'; there was more disagreement than agreement responses towards the idea that having an Urban accent means you are educated. This means it does not matter if you sound educated, but the regional varieties are not suitable for education.

Overall, the findings in the figures above showed that it did not matter if listeners correctly identified the identification or not.

As mentioned in this section, the job status showed no significant interactions of both languages and styles. I will include plots of job status in Arabic of both styles when correctly and incorrectly identified.

[9] The Moroccan speaker in this study when he was asked to retell the Arabic reading text, he unlike other Arab speakers under study, used different vocabularies that do not look like the original text.

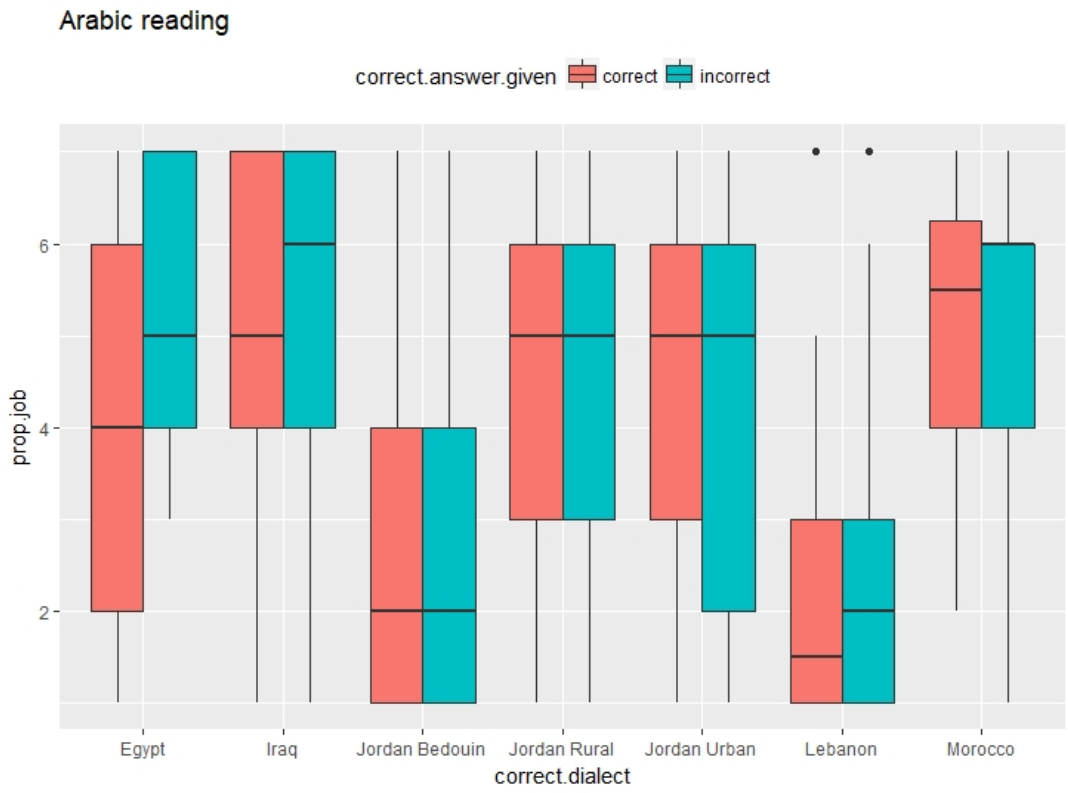

Figure 6.14: Arabic reading style from correct and incorrect responses on job status

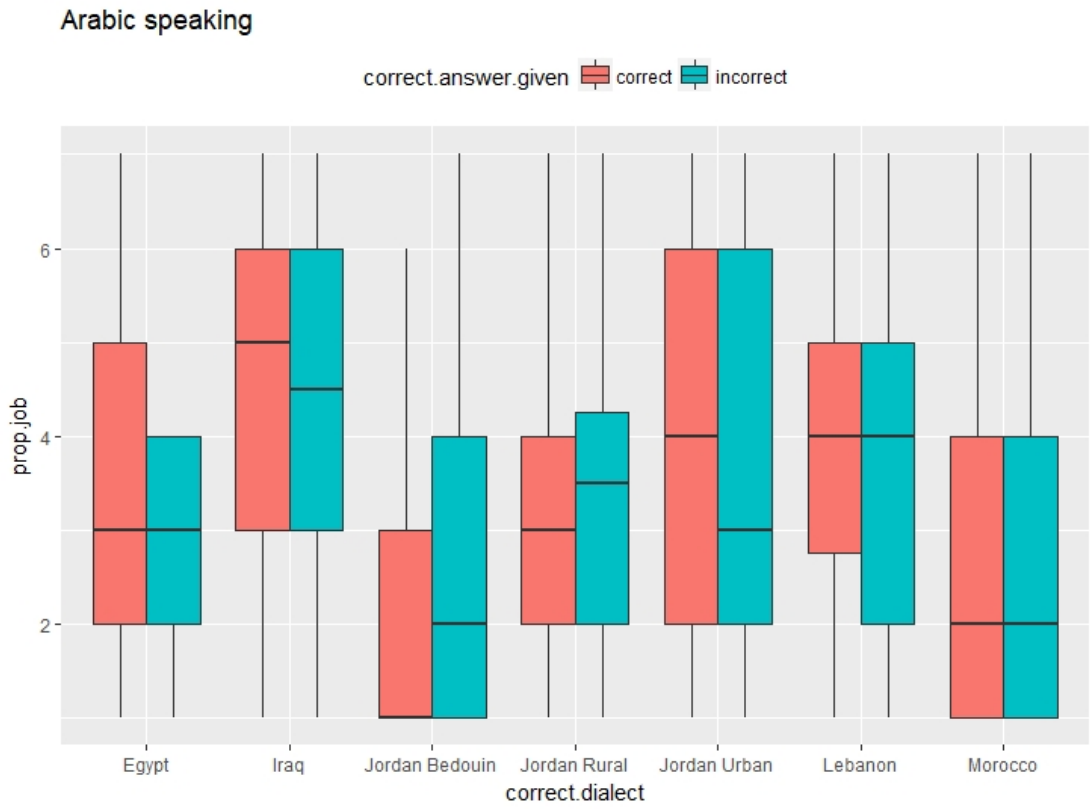

Figure 6.15: Arabic speaking style from correct and incorrect responses on job status.

Figures 6.14 and 6.15 are about the suitability of each speaker for the broadcasting job. Listeners were asked to listen to each speaker in different languages and styles and answer the statement 'I would like to hire this speaker to work as news presenter' on a 7-point slider scale, where 1 definitely no and 7 definitely yes. In the Arabic context, the strong preference for the Arabic reading style (standard variety) is superior and correct. The findings of suitability for employment in broadcasting are in line with previous studies where listeners tend to rate the standard varieties higher than the non-standard varieties (A. Cargile, 2000; Dalton-Puffer et al., 1997; Hiraga, 2005; Hopper, 1977; Hopper & Williams, 1973; Lindemann, 2003). A similar finding is shown in figure 5.12 in chapter five. Listeners rated the MSA variety the most powerful variety followed by the Jordan Bedouin dialect. However, in this section, the Jordan Bedouin speaker was rated the least on job trait in Arabic reading and speaking styles, whether he was correctly or incorrectly identified. One plausible reason why the Jordan Bedouin dialect was rated high on a powerful trait in figure 5.12 is people likely thought the 'powerful' trait related to the expressiveness of speech and richness of language, the trait enjoying high status esteem (Hussein & El-Ali, 1989). But why it was rated the lowest in figure 6.14 and 6.15, was because the speaker had to read and retell, so listeners had the opportunity to rate his accent and spot his stigmatised features. Also, if the accent is incomprehensible, it affects employability (Carlson & McHenry, 2006). For example, in the same figures 6.14 and 6.15, the Moroccan speaker in the Arabic speaking style was incomprehensible and rated low on job traits but was rated the highest in the Arabic reading style when correctly and incorrectly identified. This finding of job status in this survey agrees with Brewer (2013), which shows that speakers in the reading style were chosen for a high-status job, whereas speakers in the speaking style were selected for low-status jobs (see section 3.4 3 in chapter 3). Generally speaking, the findings of figures 6.14 and 6.15 reflect the prevailing attitudes among the Arab listeners that Standard Arabic is more suitable for the formal broadcasting job.

Samples of Lebanese speech reading and speaking in Arabic.

Reading Arabic:

Transcription

ʔisˁasˁ wi rwayɑ:t **ʔ**alf laileh wlaileh, **ʔisˁasˁ** smi**ʕ**naha min zaman **ʕ**əbrah **ħ**ibeh min azamen btirwəh blyɑ:li alsəmər wa əl**ʔ**unis btenthi ma**ʕ** **tˁ**lo:**ʕ** **ʔ**alfa**ʒ**ər, tashwe:**ʔ** ye**ħ**mlna lima **ʕ**rifet almaze:d bnihɑ:yet kul **ʔisˁ**a wsho:**ʔ** akbər lil**ʔ**istmɑ:**ʕ** kul y**o**:m.

(Translation)

We used to hear stories and narrations such as “one thousand nights and a night for ling time been told at night and ends at dawn, the longing to stay awake all night to know what is going to happen at the end of each story and we are longing to listen to the story every day”.

Speaking Arabic

Transcription

Kan fi kaza ma**ʒ**mu:**ʕ**a wa silsileh li**ʔisˁasˁ** **ʔ**alf laileh wa laileh , kan fi silisleh ba**ġ**dadieh, w silsileh Ma**sˁ**riyeah, w Libnaniyeah wa Hindiyeah, kaman tamat tar**ʒ**amit li**ħ**kayt **ʔ**alf laileh wlaileh li**ʕ**dad min **ʔ**lu**ɣ**at, **ʔ**lfaranseah wel **ʔ**lmaneah wel **ʔ**inglizeah.

(Translation)

There were group of stories of the series of “one thousand nights and a night” such as Baghdadi version, Egyptian version, Lebanese version, and Indian version and were translated into several languages such as French, German, and English.

By looking at the reading Arabic text, which is supposed to be read in the Standard Arabic form and the speaking Arabic, which is a retelling of the Arabic reading speech, an Arab speaker can notice no differences. The speaker employed his regional or colloquial dialect in the standard Arabic form. For example, if we look at the Reading Arabic text above, we notice the glottal stop /**ʔ**/ in the word **ʔ**isas (stories), but the /**ʔ**/ sound is not original in this word and the standard variant should be /q/. Thus, to say this word in pure standard Arabic, it should be said like [qiṣaṣ] قِصَصٌ (stories), but the /**ʔ**/ is original in the word **ʔ**alf (one thousand) اَلْفُ. Hence, for the speaker’s failure to produce the standard variants properly, he was rated low, which applied to all the semantic features. The fricative **[ʒ]**, is a spoken feature and the affricated **[dʒ]** is a standard variant. In both reading and speaking styles, the

Lebanese speaker used the fricative **[ʒ]** instead of the affricate variant **[dʒ]**. The fricative variant is acceptable in the speaking style but not in the reading style, for example, **ʔ**alfa**ʒ**er (dawn), which supposed to be pronounced **ʔa**lfa**dʒ**er in the reading Arabic.

Why was this speaker rated higher on the masculine trait in speaking Arabic than in reading Arabic if he applied his regional features in both styles? I could not find any answer or clarification though he used more regional features in speaking Arabic than reading Arabic. By looking at the Moroccan speaker in his two Arabic styles, e.g.,

Arabic reading

Transcription

Ina **ʔ**awal **tˁ**ab**e**:bin fil Islam huwa Al**ħ**arithu bnu kildata Althgafi **ħ**aythu wulida fee madinati Al**tˁ**a**ʔ**if qabla nuz**o**:l alda**ʔ**wati wa nash**ʔ**a fe:ha. Wa**ʕ**inda blo**ɣ**ihi wa ishtidada **ʕ**udihi safra ila a**ɣ**labi bilad aljaz**e**:rati Al**ʕ**arabiyati liyat**ʕ**alam a**tˁ**ib.

(Translation)

The first doctor in Islam is Al**ḥ**arithu Ibnu kildata Althgafi. He was born in Al**ṭ**aif before the descent of Islam and grew up in it. When he grew up and became an adult, he travelled to most Gulf countries and Yemen to study Medicine.

Arabic Speaking

Transcription

Al**ħ**arith Ibnu kildah Althgafi kan tzad fimdinat al**tˁ**a**ʔ**if wa kbir fieha milikbir w gad **ʕ**ala rasu wd**x**el **ʔ**wal midrasah dyal al **tˁ**ib fi alyaman weli t **ʕ**alam minha shnu huwa almur washnu huwa aldiwa dyalu. Da**x**al fil wa**ħ**id almu**ħ**jaja ma**ʕ** Kisra al**ħ**akim dyal Alfurs wjawab **ʕ**ala ga **ʕ**il**ʔ**asila ilil **tˁ**ra**ħ**a **ʕ**lieh wi **ʕ**jibu dakshi **ʕ**ilaj wala **tˁ**beeb dyalu.

(Translation)

Al**ḥ**arith Ibnu kildah Althgafi (name of a person) was born in Altaif (city in Saudi Arabia close to the city of Mecca) and grew up in it. When he became an adult and supported himself, he went to a medical school in Yemem and studied medicine. One day he was in an argument with Kisra a ruler of Alfurs (Persia) and answered all the questions he asked him, and he admired him, and for this reason, he became his doctor.

There are noticeable differences between the two styles. For example, the Moroccan speaker was rated low on the Standard trait in the Arabic speaking style because of the effect of the regional variants and some words which to an extent sound incomprehensible and meaningless, particularly for Middle Eastern Arabs, such as ([tzad], which means he was born, [gad ʕala rasu] which means he can do things by himself, [gaʕ ilʔasʔila], which means all the questions, [wiʕjibu dakshi ʕilaj wala tˁbeeb dyalu] which means he became the ruler doctor). However, the speaker was rated very high when he read in Standard Arabic form. While he did not use some diacritics[10] properly, he was better than all the other speakers (see figure 6.7). As previously mentioned, the Arabic reading style speakers were asked to read short written texts and avoid the stigmatised regional features in the reading style.

The difference between the Moroccan Arab speakers and Middle Eastern Arab speakers is that the Middle Eastern Arab speakers, when switching between standard and non-standard forms, use the same words, but they pronounce them differently or change the sound of the letter, replace the position of the diacritics, or replace the standard variant to regional variant, e.g., the standard form for the word a lot in standard Arabic is [Katheran] but in non-standard Arabic is [katheer], [kitheer], [kteer] or [ch(a)theer] according to the spoken dialect and variety. However, in Moroccan Arabic, speakers entirely replace the standard lexical word with a different non-standard one, e.g., [Katheran] becomes [bizaf], and in Tunis, it becomes [barsha].

Stylistic variation in Arabic studies involves variation in an individual speaker's speech based on the task they are performing (e.g., reading vs. speaking) (Al-Wer, 2013). By and large, stylistic variation has been dealt with as a binary choice between standard and colloquial features (Al-Wer, 2013). The speakers in the reading tasks consistently used the standard variants, but the non-standard variants were always used in the speaking style.

However, does the misidentification of the speaker affect the characteristic ratings of the speakers? Listeners' reactions may be based on social stereotypes associated with the incorrect variety (Milroy and McClenaghan (1977), and the misidentification might affect the reliability of the data. A few studies (Lindemann, 2000, 2003; Milroy & McClenaghan, 1977) argue that unfamiliarity with an accent and (mis)identification of a variety had no significant effect on listeners' ratings.

[10] The three short vowels in Arabic: fatHa (a), Damma (u) and kasra (i); they are written above or below the consonants and are called Harakat.

However, language ideologies suggest that misidentification of a speaker nationality might assign different personality traits. This indicates that "the supposed characteristics of the language may be directly associated with the supposed characteristics of the people, even if the listener has not identified them correctly" (Lindemann, 2003, p. 354). This argument is congruent with a few previous studies in which listeners were asked what accent or nationality they are hearing. Milroy and McClenaghan (1977, pp. 8-9) stated that the ratings of Scottish, Southern Irish, Ulster and RP varieties were found even when judges misidentified the accents correctly. They also commented that "an accent acts as a cue identifying a speaker's group membership …. accents may directly evoke stereotyped responses without the listener first consciously assigning the speaker to a particular reference group". They also suggested that the speaker's accent may trigger stereotypical responses even when listeners are uncertain about where the speaker is from (Milroy & McClenaghan, 1977).

In the current study, listeners were accurately able to identify the varieties in Arabic speaking style. Still, they failed to accurately identify the Arab speakers in Arabic reading style for certain varieties. Likewise, listeners failed to correctly identify the Arab speakers of the English language in both styles except for the Egyptian speaker. For example, the Lebanese variety was always confused with the Syrian variety; however, this does not necessarily mean the ratings applied to the Syrian are applied also to the Lebanese, as Lindemann (2000, p. 28) suggests, "language ideologies may function without overt (correct) identification of the speaker's accent". This confusion for listeners is probably prompted by the phonological similarities between the two spoken dialects in Jordan (see Milroy & McClenaghan, 1977).

Most speakers abandoned using their dialectal features, especially in the Arabic reading style, except for the Lebanese speaker who heavily applied the Lebanese regional features in his Arabic reading style. The Egyptian speaker also used two or three regional features that he produced spontaneously. For example, at the level of segmental phonology, the standard features [q, θ, ð, and ʤ] are abandoned in favour of the non-standard variants [ʔ (t, s) (d, z) ʒ] in Levantine and Egypt varieties (Al-Wer, 2013).

Overall, Arabic speakers were rated higher in Arabic than English, and speakers in Arabic reading style were rated higher than in Arabic speaking style. The study, to an extent, showed no significant bias towards speakers whether (mis)identified. For example, the Moroccan speaker was rated low on the standard trait in the Arabic speaking style but the highest on the same trait in the Arabic reading style. The Lebanese speaker was rated higher

in the speaking style than in the reading style on all traits, whether in Arabic or English. The Jordan Bedouin speaker was rated the lowest on all traits in Arabic and English except on masculine trait. The different rankings amongst the varieties confirm that the listeners have not been biased towards any variety, and ratings were only based on the voice. Generally, as mentioned in chapters two and three, Standard Arabic has functions and is used in certain situations but not in daily conversations, e.g., with close friends or at home. This means a speaker can still use the Standard Arabic features in their speech but not apply the correct diacritics (see table 6.16 below).

Table 6.16: Diacritics showing differences between standard Arabic and spoken Arabic

Standard Arabic	Spoken Arabic	English
الطَّالِبُ سَعِيدٌ	**الطالب سعيد**	**The student is happy**

Table 6.16 shows the difference between the standard Arabic variety and the non-standard spoken variety. The first column is said and written in standard Arabic where diacritical marks (short vowels and sometimes duplicate vowel of the last consonant) are correctly applied under and/or above the letters. However, in the second column, though it is written the same, no diacritics are applied and the words are pronounced slightly differently. When a speaker says something in a proper standard Arabic, it is not easy to identify them.

The validity of the use of the verbal-guise technique to investigate people's favoritisms is difficult to discover. In the next section, I explained the findings of comprehensibility and accentedness of listeners' ratings towards speakers in Arabic and English.

6.6. Ratings of comprehensibility and accentedness

This section investigates differences in perceptual ratings by Arab listeners on certain Arabic varieties and Arabic-accented English speech regarding the degree of perceived comprehensibility and accentedness in reading and speaking styles. High values indicate positive judgements of the speakers, for example, 'how comprehensible do you think this speaker sounds?' 1 not comprehensible and 7 very comprehensible. How accented do you think this speaker sounds? 1 strong accented and 7 light accented. Accentedness in this

thesis, means how far a speaker's accent seems from Standard Arabic and English. I looked at the correct.answer.given and interaction with correct.dialect and see if they converge. Comprehensibility was not converged in Arabic and English. Accentedness was only converged and showed significant interactions in Arabic speaking style and English reading style (see table 6.12 above). The question for this section of the survey is:

Q3- How accented and comprehensible are speakers of Arabic varieties whether speaking in:

A spoken Arabic

B standard Arabic

C spoken English

D read English

How the speech of the speakers is perceived and understood.

Because we are typically interested in differences amongst what attitudes listeners may hold when evaluating speakers' comprehensibility and accentedness in Arabic and English, this section shows how listeners rated the seven speakers' accents in terms of comprehensibility and accentedness when they talked in Arabic and in English in both styles. Also, this section discusses whether different styles, languages and correct and incorrect identification of the speakers may affect the judgements.

6.6.1 Statistical Analysis and the ratings for accented speech in Arabic speaking style

The 774 observations from 129 responses on Arabic speaking style including characteristics of comprehensibility and accentedness as dependent variables were hand-fitted into a mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (correct dialect, correct answer given, sex, age, and education) and the interactions between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects/interactions failed to reach significance (p-value>0.05) or showed no convergence in a model were removed and the model was rerun. The age, sex, education, listeners from the same dialect and from Jordan failed to converge. The models that showed convergence and significance were kept.

The best-fitted models were found to have the fixed effects of two-way interactions between correct answer given and correct dialect. The varieties included in the plots are Iraq,

Jordan Bedouin, Jordan Rural, Jordan Urban, Lebanon and Morocco. I included only the model with interactions.

Table 6.17: Output of the logistic regression model for accented speech in Arabic speaking in the full dataset

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	4.53E+00	7.17E-01	1.67E-08	6.307	1	
correct.answer.givencorrect	-1.41E-01	3.17E-01	6.88E+02	-0.446	0.6557	
correct.dialectJordan Bedouin	-9.93E-01	9.83E-01	1.47E-08	-1.011	1	
correct.dialectJordan Rural	-5.56E-01	9.88E-01	1.50E-08	-0.563	1	
correct.dialectJordan Urban	1.80E-01	9.89E-01	1.51E-08	0.182	1	
correct.dialectLebanon	-1.24E-01	9.85E-01	1.49E-08	-0.126	1	
correct.dialectMorocco	-2.11E+00	1.01E+00	1.62E-08	-2.098	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	-3.71E-01	4.17E-01	6.78E+02	-0.888	0.3746	
correct.answer.givencorrect:correct.dialectJordan Rural	2.38E-01	4.12E-01	6.73E+02	0.577	0.5641	
correct.answer.givencorrect:correct.dialectJordan Urban	2.08E-01	4.17E-01	6.79E+02	0.5	0.6172	
correct.answer.givencorrect:correct.dialectLebanon	1.31E-01	4.14E-01	6.80E+02	0.316	0.7522	

correct.answer.givencorrect:correct.dialectMorocco	1.03E+00	4.49E-01	6.79E+02	2.291	0.0223	*

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.17 represents the final model for accented speech in Arabic speaking style. This model shows a significant interaction for Moroccan speaker with a P value 0.0223. The positive value in the 'Estimate' column for the Moroccan speaker indicates that the speaker was thought to have a slight accent close to the standard Arabic when compared to incorrectly identified than when correctly identified.

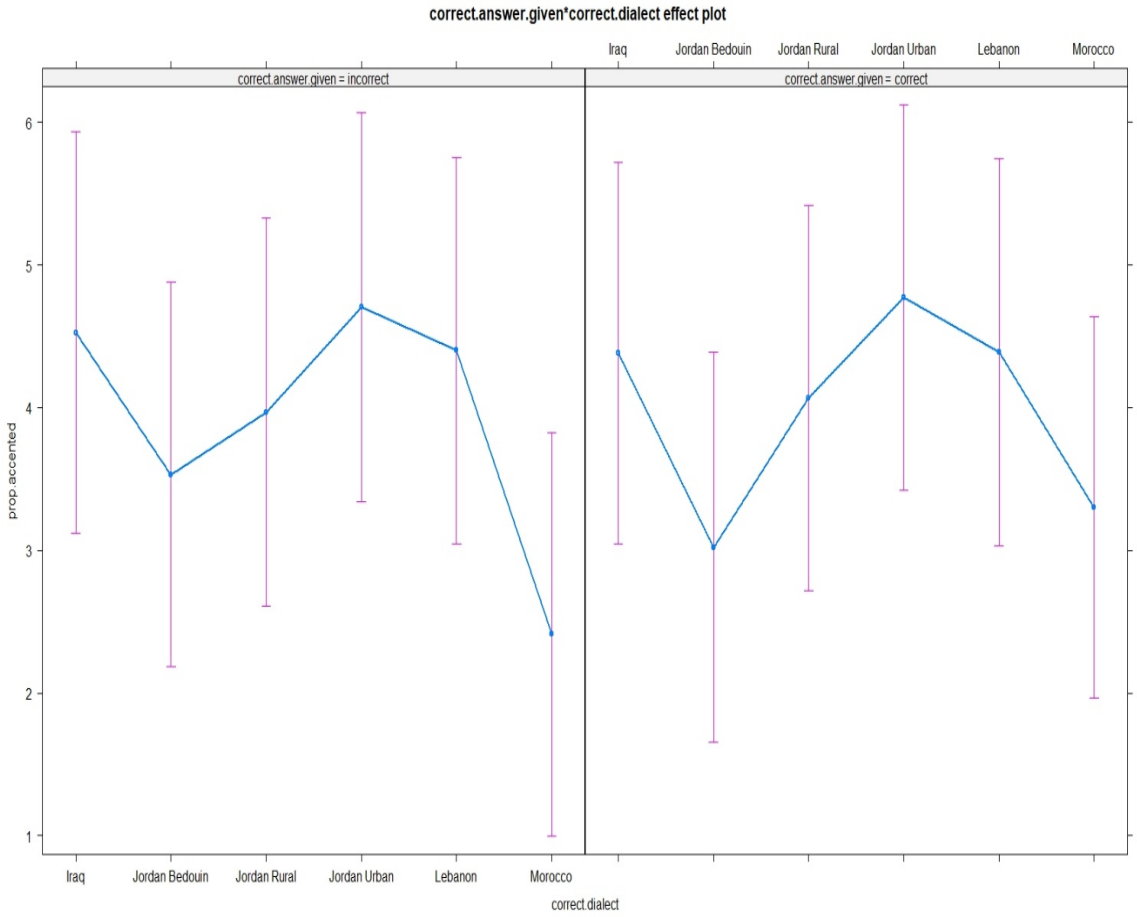

Figure 6.16: model ratings for accented accents, showing the main effects and interaction effects of correct.answer.given and correct.dialect in Arabic speaking style.

Figure 6.16 shows an interaction between the correct answer given and correct dialect. The Y-axis represents the accented trait, while the X-axis represents the varieties under study. The model shows how listeners responded to the question 'how accented do you think this speaker sounds?' in Arabic speaking style when the speaker is incorrectly and correctly

identified. As can be seen, the Jordan Bedouin and the Moroccan speakers were rated as having stronger Arabic accents (far away from the standard accent), more than other varieties whether listeners get the answer correct or not. Overall, there are no differences in ratings whether you get the answer correct or not, except for the Moroccan speaker. When listeners were correct, the ratings become more standard than if they got the answer incorrect.

The low score for the Moroccan speaker in the accentedness trait in the Arabic speaking style is expected due to the influence of regional features in his speech, which results in him being incomprehensible. This is in line with Hachimi (2015), who shows that the Moroccan variety is not comprehensible and far from the standard Arabic. The Jordan Bedouin speakers were rated as having a strong accented speech whether correctly or incorrectly identified.

6.6.2 Ratings towards accentedness in English

In this section, listeners listened to the same seven speakers when reading and retelling the same stories but in English. As mention in the methodology chapter, each speaker's short paragraph is different from other speakers, so no paragraph or text is identical, meaning listeners did not hear the same story twice. Also, for each language and style, listeners were not the same. Strongly accented in English means speakers' accents are far from the English accent and light accented means speakers' accents are more or less close to an English accent.

6.6.3 Statistical Analysis and the ratings for accented speech in Arabic speaking style.

The 534 observations from 89 responses on English reading style including characteristics of comprehensibility and accentedness, as dependent variables were hand-fitted into a mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (correct dialect, correct answer given, sex, age, and education) and the interactions between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects interactions failed to reach significance (p-value>0.05) or showed no convergence in a model were removed, and the model was rerun.

The best-fitted models were found to have the fixed effects of two-way interactions between correct answer given and correct dialect. The varieties included in the plots are Iraq,

Jordan Bedouin, Jordan Rural, Jordan Urban, Lebanon and Morocco. I included only the model with interactions.

Table 6.18: Output of the logistic regression model for accented trait in English reading style in the full data set

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	4.14E+00	6.64E-01	1.22E-08	6.231	1	
correct.answer.givencorrect	1.31E+00	7.91E-01	4.77E+02	1.652	0.0991	.
correct.dialectJordan Bedouin	-1.07E+00	9.35E-01	1.20E-08	-1.142	1	
correct.dialectJordan Rural	-3.94E-01	9.34E-01	1.20E-08	-0.421	1	
correct.dialectJordan Urban	1.88E-01	9.40E-01	1.22E-08	0.2	1	
correct.dialectLebanon	-6.78E-01	9.32E-01	1.18E-08	-0.727	1	
correct.dialectMorocco	4.97E-01	9.31E-01	1.18E-08	0.534	1	
correct.answer.givencorrect:correct.dialectJordan Bedouin	-1.20E+00	8.54E-01	4.81E+02	-1.403	0.1612	
correct.answer.givencorrect:correct.dialectJordan Rural	-1.59E+00	8.57E-01	4.81E+02	-1.854	0.0644	.
correct.answer.givencorrect:correct.dialectJordan Urban	-8.02E-01	8.38E-01	4.76E+02	-0.957	0.3391	

correct.answer.givencorrect:correct.dialect Lebanon	-8.26E-01	8.92 E-01	4.80E+ 02	- 0.92 7	0.354 6	
correct.answer.givencorrect:correct.dialect Morocco	- 2.35E+00	9.39 E-01	4.80E+ 02	- 2.50 2	0.012 7	*

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.18 represents the final model for accented speech in the English reading style. This model shows a significant interaction for Moroccan speaker with a P-value of 0.0127. The negative value in the 'Estimate' column for the Moroccan speaker indicates that the speaker was likely to sound heavily accented or he had a heavy English accent when correctly identified.

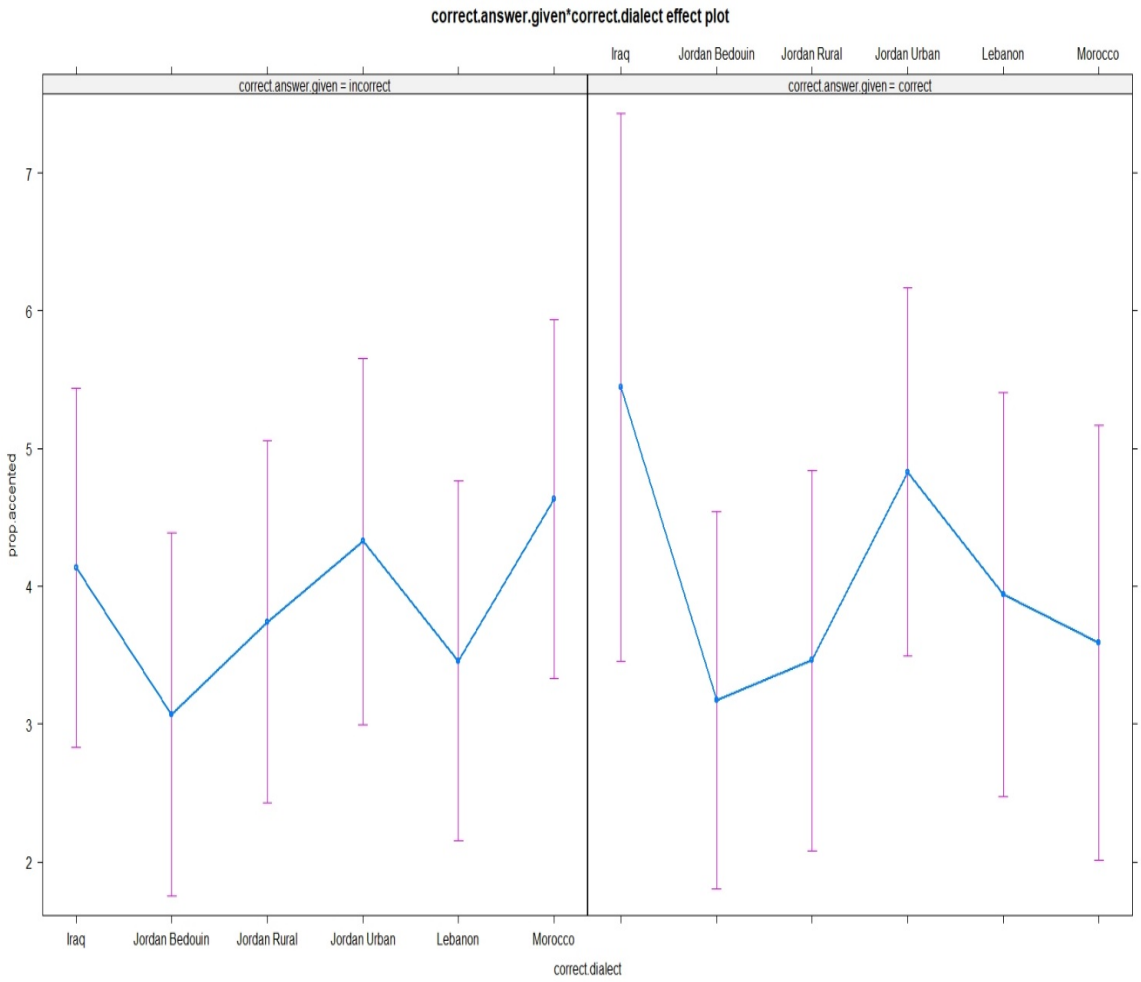

Figure 6.17: model ratings for accented accents, showing the main effects and interaction effects of correct.answer.given and correct.dialect in English reading style.

Figure 6.17 shows an interaction between the correct answer given and correct dialect. The model shows how listeners responded to the question 'how accented do you think this speaker sounds?' in English reading style when the speaker is incorrectly and correctly identified. As can be seen, the Jordan Bedouin speaker was scored the lowest in both panes when correctly or incorrectly identified. The left pane shows that the Moroccan, the Jordan Urban, and the Iraqi speakers were rated less accented than other varieties when incorrectly identified. The Jordan Bedouin and the Lebanese speakers were rated the most heavily accented in English reading style. However, the right pane shows that the Moroccan speaker had a different rating when correctly identified; he was rated as being more accented when correctly identified than when incorrectly identified. The Iraqi speaker was rated as having a less pronounced Arabic accent when correctly identified than when incorrectly identified. It could be that the number of responses is not enough.

The table below summarises what languages and styles on comprehensibility and accentedness were statistically significant and made the difference and which were not.

Table 6.19: Significant of comprehensibility and accentedness by language and style

Characteristics	A.Reading	A.Speaking	E.Reading	E.Speaking
Comprehensibility	NC	NC	NC	NC
Accented	NC	Mo	Mo	NS

Overall, there was a variation in responses towards the speakers' English reading style when correctly and incorrectly identified. The Moroccan speaker was rated low on accentedness English reading style. The Iraqi speaker was rated as having the least accented speech accent when correctly identified than when incorrectly identified.

6.6.4 General discussion of question three

The purpose of this section is to investigate how listeners differ in making their perceptual judgments on Arabic speech and Arabic-accented English speech accents in both reading and speaking styles. This question investigated linguistic influences on comprehensibility (easiness of understanding) and accentedness (far from standard Arabic and English) in L1 Arabic and Arabic–accented English. The results of question three show that comprehensibility ratings were not significant in both languages and styles, but accentedness

ratings were significant in Arabic speaking and English reading styles. I provided boxplots below, and in Appendix F. Though this study did not directly ask listeners what linguistic aspects such as phonology, pronunciation, grammar, and lexis are related to comprehensibility and accentedness, this question is consistent with previous research that pronunciation is associated with an accent. In contrast, lexical and grammar errors are associated with comprehensibility (Trofimovich & Isaacs, 2012).

Also, I investigated what factors, such as properties of speech, the familiarity of listeners with the understudy varieties, segmental features, lexical items, or bias against accents affect listeners' ratings and judgments on comprehensibility and accentedness ratings. However, this section's most important finding was the prominent similarities across listeners in their comprehension and accentedness evaluations of the speakers' speech. The question addressed here found that listeners from different L1 Arab varieties showed a moderate to moderately high correlation in their comprehensibility and accentedness dimension in Arabic and English. By looking at figure 6.16 above, we notice varying proportions of ratings among listeners towards the speakers, but in general, they were rated more or less strongly accented in Arabic speaking style.

Listeners rated the Moroccan speaker as being strongly accented in Arabic speaking style because he was rated incomprehensible to many listeners, except for listeners from the same region, as shown in figure 6.18 below. However, if we look at figure 6.19 below, the Moroccan speaker was rated less accented from the same region but strongly accented from listeners not from the same region. Speakers who were rated less comprehensible were rated strongly accented as shown in figure 6.16. The finding is not always similar to that of Kang et al. (2016), in which Vietnamese listeners understand their speech better when it is produced by their accent rather than by speakers of other accents. Also, some differences between listeners were found that being familiar with a particular accent led to a better understanding and had different accent ratings (see Munro et al., 2006, p. 125).

The regional phonological features and the geographical areas were also interesting properties, but not always, to facilitate the speakers' comprehension in Arabic. Recent research studies have sought to examine the effects of accents on comprehensibility and the factors that could affect the comprehension of a particular accent (Kang et al., 2019). Gass and Varonis (1984) state that listener familiarity with an accent strongly correlated with comprehensibility judgments. I argue with them that the Jordan Bedouin was rated the least comprehensible when correctly identified, although most listeners are from Jordan (see Appendix F). The listeners' evaluations were not demonstrated by what they based their

evaluations on, but evaluations could be based on how many regional features affected each speaker's (in)comprehensibility, or how accurate each speaker was in applying the standard Arabic features in Arabic reading, or even listeners' attitudes toward each speaker or accent when correctly or incorrectly identified. For example, the Moroccan speaker was rated more comprehensible in Arabic reading style than in Arabic speaking style (see figure 6.18 and 6.20 below). On the other hand, the Lebanese speaker was rated more comprehensible in Arabic speaking style than in Arabic reading style. Geographically, as Abunasser (2015) stated, Middle Eastern Arabic is close to one another, whereas Moroccan Arabic is relatively distant.

In terms of Arabic accented English, the Moroccan speaker was rated more comprehensible not from the same region than from the same region in English speaking style. In contrast, he was rated more comprehensible from the same region than not from the same region in English reading style as shown in figures 6.22 and 6.23.

The sentence "ʕaiyanhu ka**tˤ**ab**e**:bin **x**a**sˤ**in lah" is taken from the Arabic reading text that was read by the Moroccan speaker, which was retold like "wi**ʕ**jibu dakshi **ʕ**ilaj wela **tˤ**b**e**:b dyalu" in the Arabic speaking style. The English translation is "He appointed him as his private doctor". The two sentences in both reading and speaking Arabic styles carry the same meaning but noticeably were said in different styles. The first sentence is understood to all Arabs, but the second sentence is only understood to Maghrebi people. However, suppose you tell the listeners that the first sentence (the standard Arabic) is similar to the second sentence (spoken Arabic). In that case, they might not believe this statement, except for those people who understand the Maghrebi variety. Likely, what made the Moroccan speaker be rated low in the Arabic speaking style lies in the incomprehensibility of their every day (called in Morocco Darija) Arabic speech and vocabulary; this is in line with (Hachimi, 2015, p. 61), who relays the statement that "our darija is not comprehensible". This is also consistent with Albirini (2016) when he asked his Egyptian, Jordanian, and Saudi participants about the most difficult Arabic variety; most of them referred to the Maghrebi Arabic (e.g., Morocco).

In contrast, the Moroccan participants pointed to the Tunisian (which is part of Maghrebi Arabic), Iraqi and Gulf dialects as being the most difficult. Moreover, listener unfamiliarity with the Moroccan Arabic speech resulted in many ratings of the Moroccan variety being less comprehensible. This result is consistent with Kang et al. (2016), that found that Arab listeners rated the Vietnamese accented speech harsher than American

listeners because of the unfamiliarity with Vietnamese-accented speech. Thus, familiarity with the accent and the region make the speaker's language easy to understand.

Overall, findings in figures 6.16 and 6.17 showed that it does not matter significantly whether listeners get the answer correct or not.

Findings in figure 6.18 below support Kang et al. (2016, p. 12), that unfamiliarity with an accent means a speaker is likely to be rated less positive, less comprehensible and accented, as shown in Figure 6.19 below. These findings concurred with previous studies' findings that the Vietnamese listeners rated the Vietnamese-accented English speakers higher on comprehensibility and accentedness than American and Arab listeners (Kang et al., 2016). Japanese listeners rated the Japanese speakers easier to understand, whereas non-Japanese listeners rated the Japanese less easy to understand (Munro et al., 2006). Another example is the Egyptian variety (highly familiar among Arab listeners) was rated greatly comprehensible by listeners from and not from the same region.

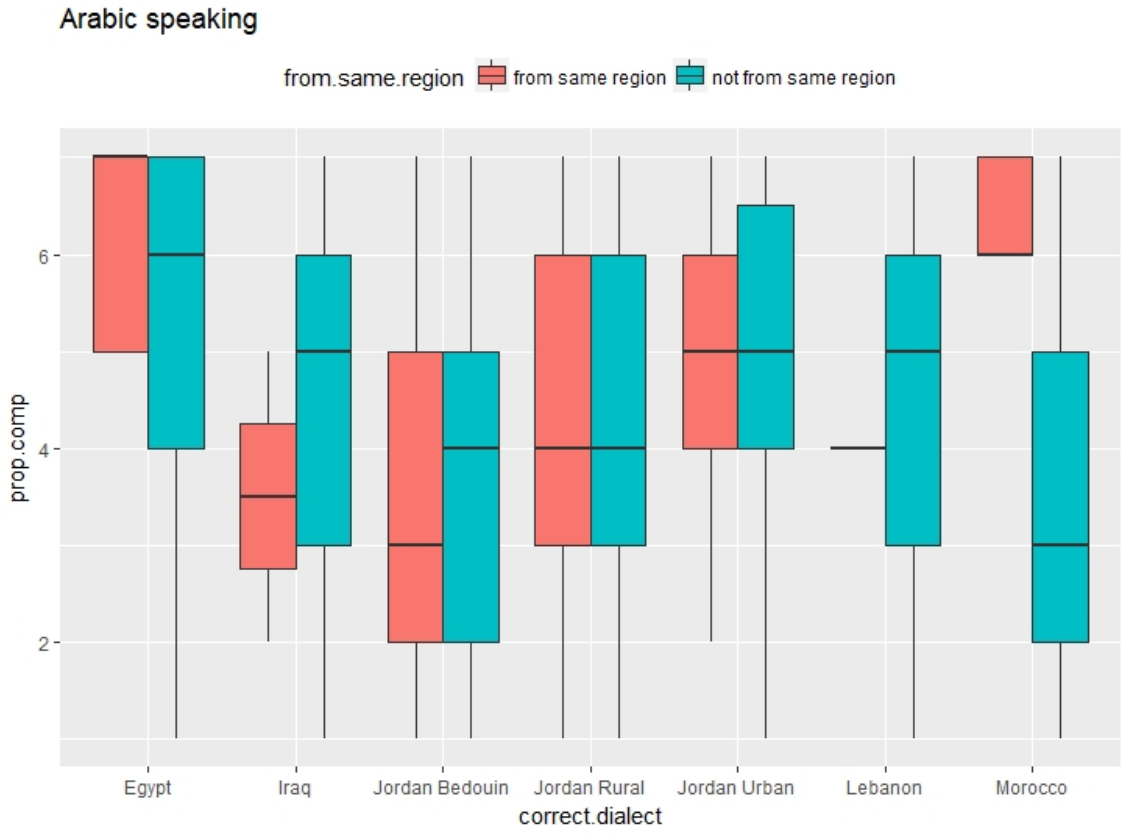

Figure 6.18: Arabic speaking style from the same region /not from the same region on comprehensibility.

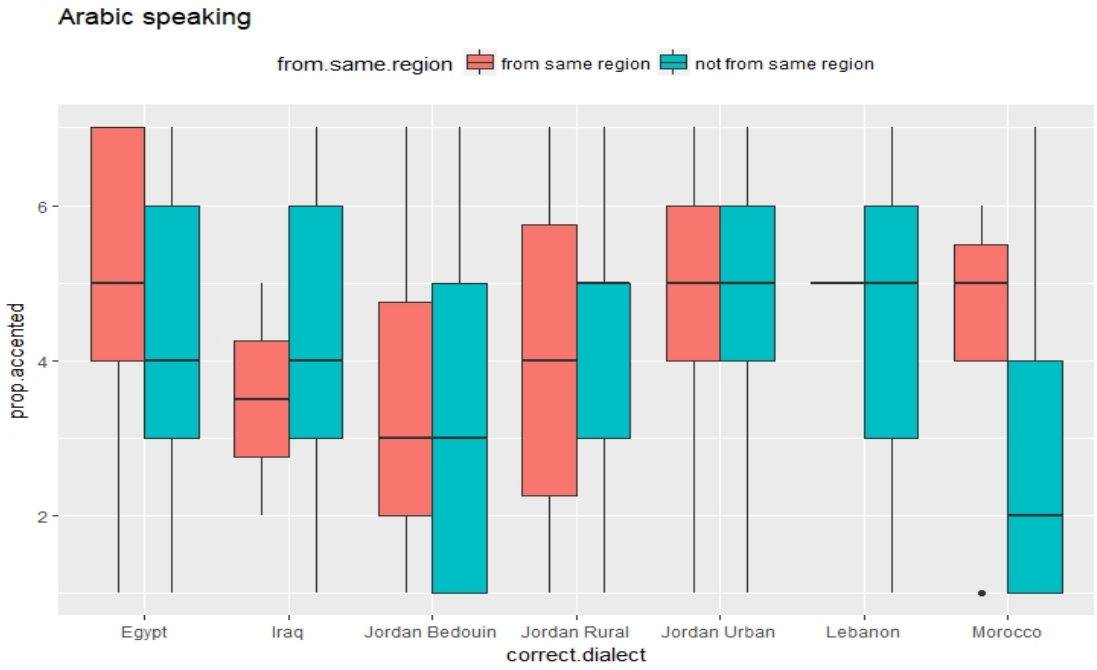

Figure 6.19: Arabic speaking style from the same region /not from the same region on accentedness.

On the other hand, figures 6.20 and 6.21 show different listener ratings on comprehensibility and accentedness in Arabic reading style. The figures show that familiarity and unfamiliarity do not greatly play a significant role as the speakers replaced their regional spoken features with the standard features, meaning speakers were rated more comprehensible and less accented, the Moroccan speaker being a good example. This shows high correlations between perceived comprehensibility score and accentedness score (Munro & Derwing, 1995a). Findings of comprehensibility and accentedness in the Arabic speaking style show that being rated less comprehensible resulted in being rated as strongly accented, which means your spoken accent is far from standard Arabic.

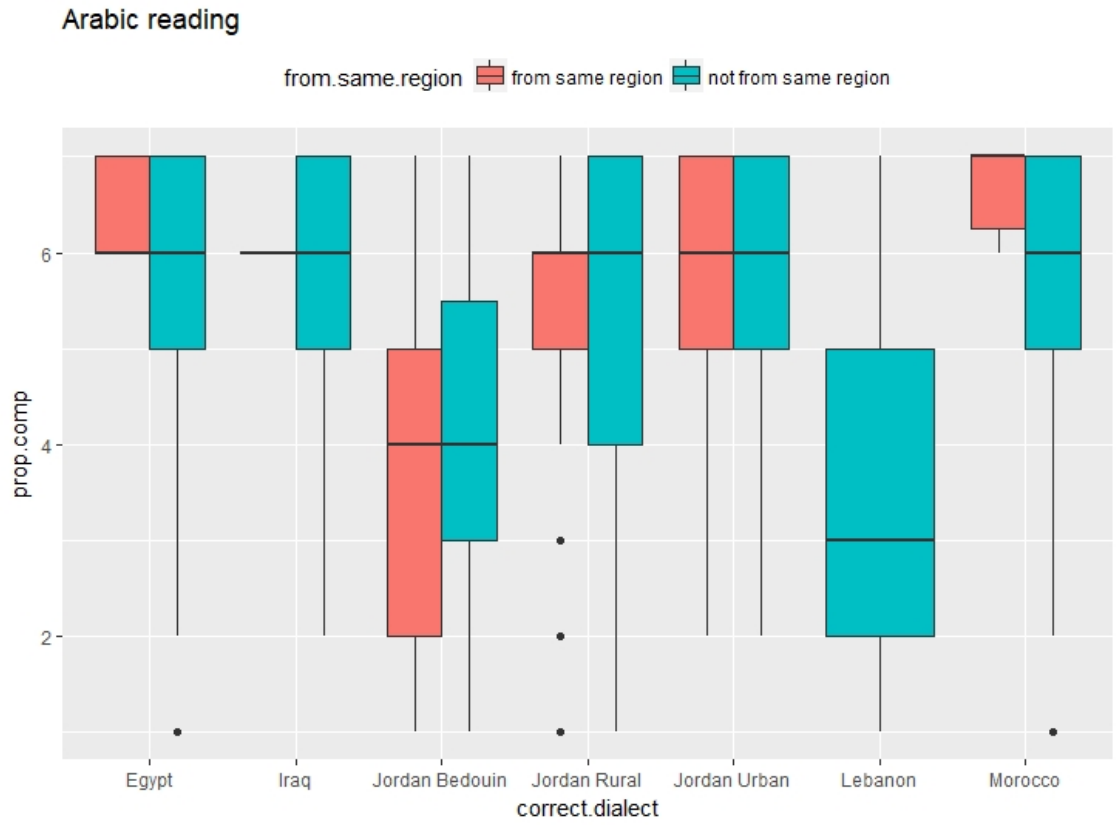

Figure 6.20: Arabic reading style from the same region /not from the same region on comprehensibility.

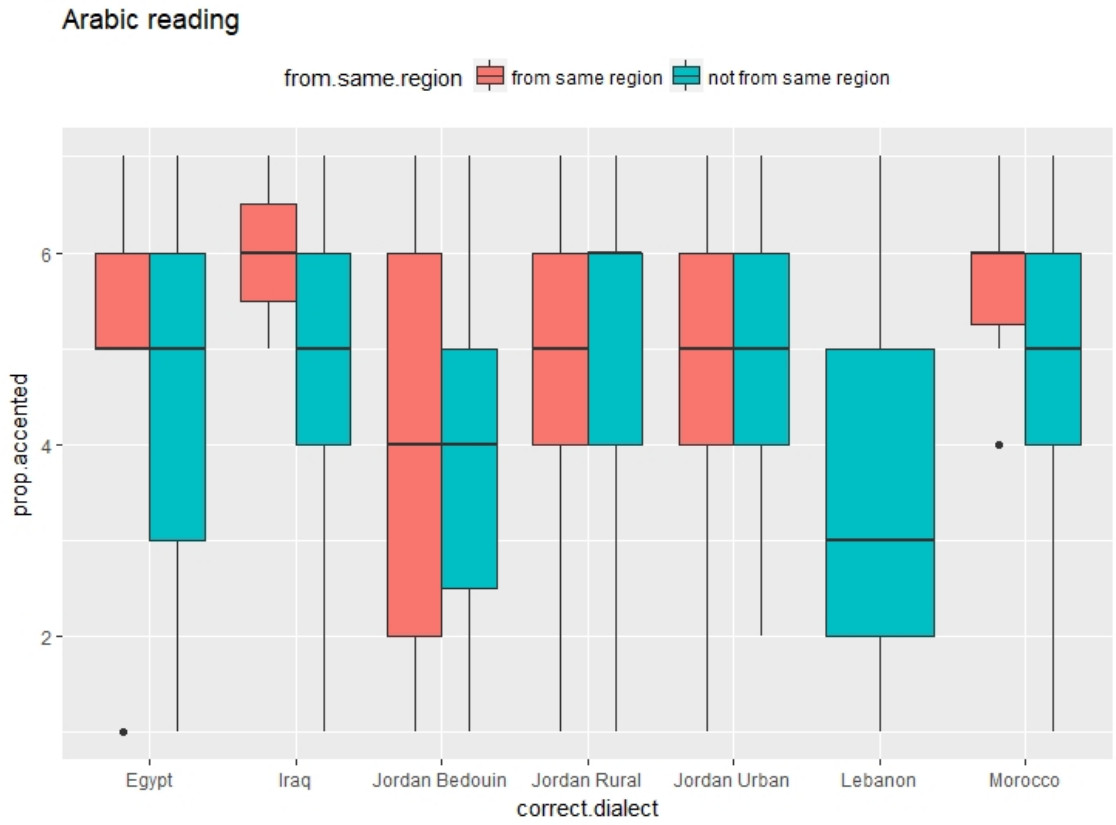

Figure 6.21: Arabic reading style from the same region /not from the same region on accentedness

The speakers in English styles were rated differently but with varying proportions. The speakers were rated more comprehensible in English reading style than in English speaking style, whether listeners were from the same region or not, as shown in figures 6.20 and 6.21, and whether speakers were correctly or incorrectly identified as shown in Appendix F. Speakers were rated high or low based on the style and how comprehensible each speaker's English seemed. Therefore, speakers in English of both styles were rated as strongly accented, whether from the same region or not from the same region as listeners. However, the Lebanese speaker was rated as having a less accented style, from the same region (as listeners), using English speaking style as shown in figure 6.22, even when correctly identified, as can be seen in Appendix F. The Jordan Urban speaker was rated less accented from the same region or not from the same region in English reading style as shown in figure 6.23. Overall, poor pronunciation led the speakers to be rated less comprehensible and strongly accented. For example, the Jordan Bedouin speaker was rated less comprehensible in the English speaking and reading styles, resulting in him being rated strongly accented on both speaking and reading styles.

Overall, this section's outcome suggests that the properties of the speech were a powerful element of the listeners' responses despite the listeners having diverse linguistic backgrounds. Also, regardless of L1 background varieties, as shown in figures 6.16 to 6.19, the listeners assigned lower accentedness ratings than comprehensibility ratings. This shows consistent findings across several studies (Derwing & Munro, 1997; Munro & Derwing, 1995a). The factors that affect the ratings of listeners on comprehensibility and accentedness are based, as previously mentioned, on familiarity with an accent (Gass & Varonis, 1984), as well as exposure to varieties increasing the comprehensibility of the speech (Field, 2005; Gass & Varonis, 1984), whereas other studies found no such effect (Munro et al., 2006). Listener country-of-origin and the deviance from the standard form of speech affects the ratings. For example, listeners might have benefited from listening to speakers from the same region as theirs, and their scores were higher for comprehensibility and accentedness. While listening to speakers not from the same region as theirs might be scored less for compressibility and accentedness.

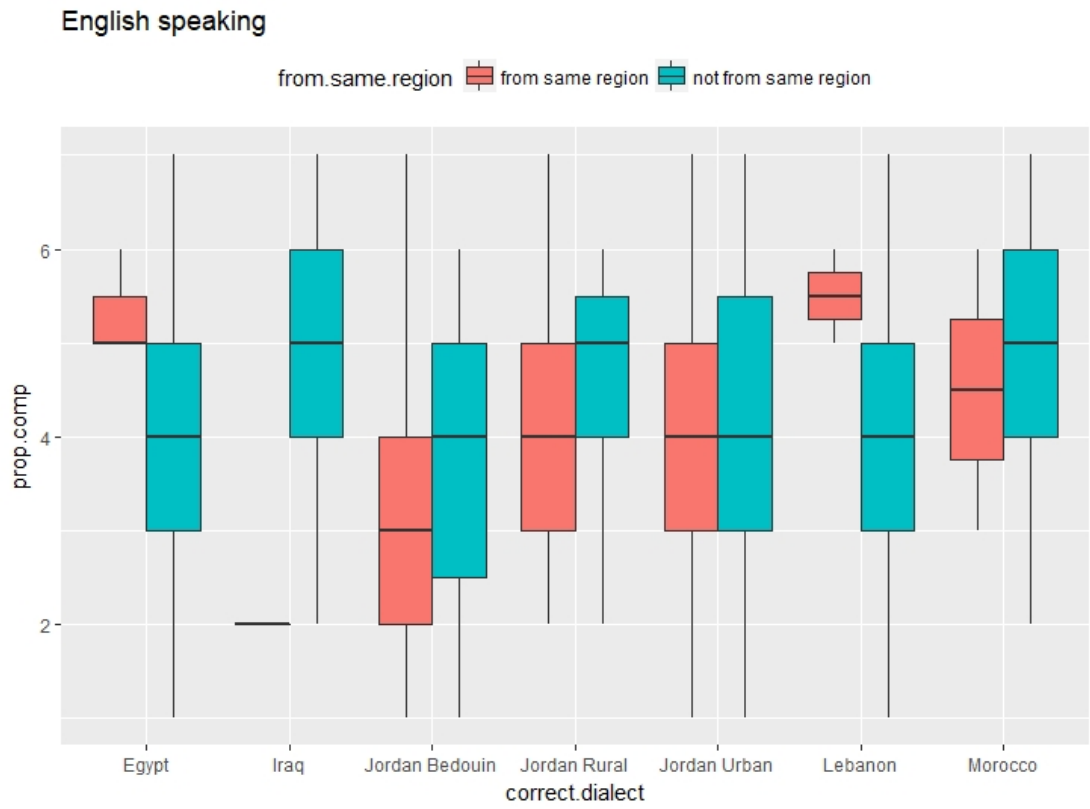

Figure 6.22: English speaking style from the same region /not from the same region on comprehensibility

Figure 6.23: English reading style from the same region /not from the same region on comprehensibility

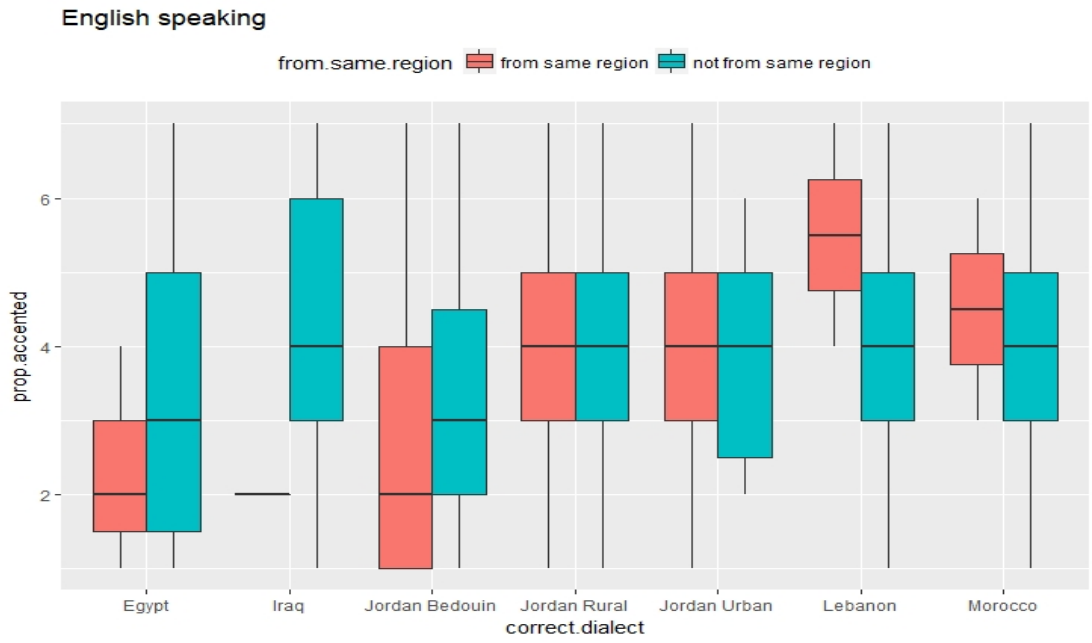

Figure 6.24: English speaking style from the same region /not from the same region on accentedness

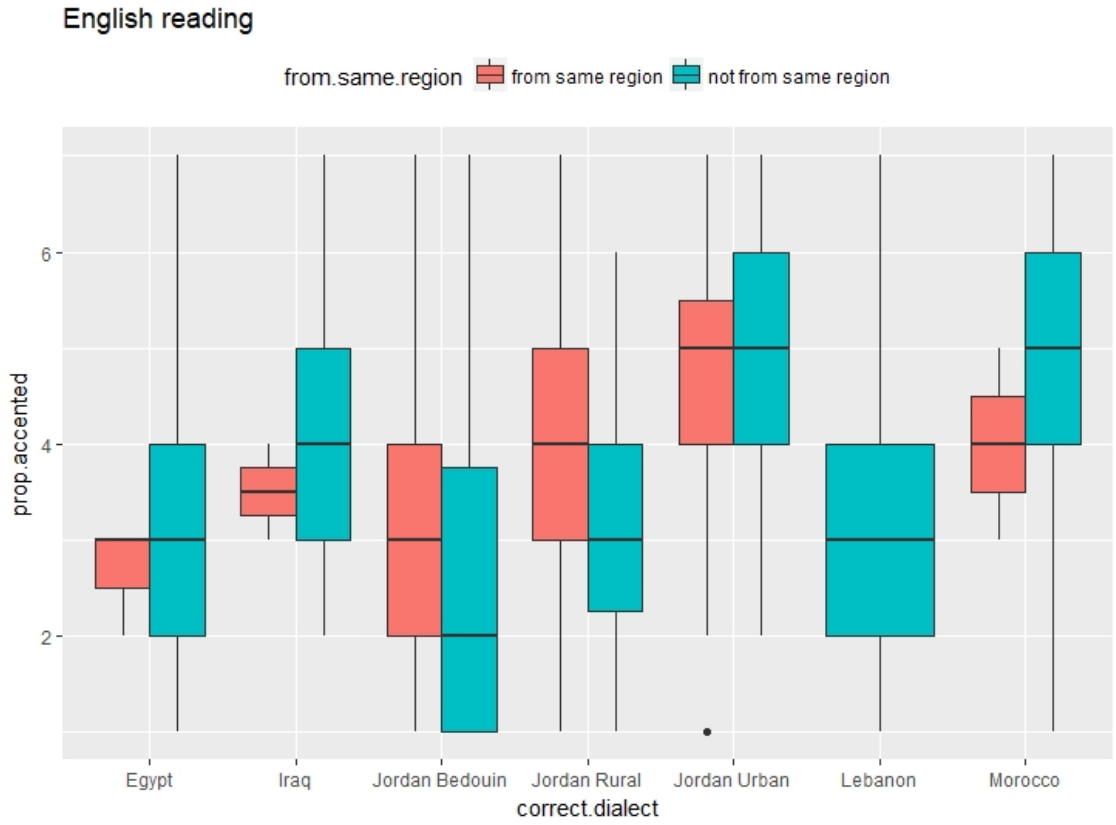

Figure 6.25: English reading style from the same region /not from the same region on accentedness

Taken together, this research points out that listeners' perceptions of comprehensibility are connected to grammar, lexis, and pronunciation, whereas accentedness is strongly associated with pronunciation (Saito et al., 2015).

6.7 Comprehensibility and Accentedness correlation

The last question investigates whether there are a correlation between accentedness and comprehensibility, status and solidarity factors, and what variables affect accentedness and comprehensibility scores. Question 4 examines listener attitudes and whether the speaker being correctly or incorrectly identified could affect listener ratings.

Q4- How does a listener's attitude affect accentedness and comprehensibility ratings of speakers?

This question examined the relationship between the five variables (standard, education, job, masculine and kind) and listeners' judgments of comprehensibility and accentedness. No significant two-way interaction was found. In this question, I tried to examine which of the five rated variables are associated with comprehensibility and accentedness. To answer this question, we need to determine whether listeners get the answer right or wrong, and how this might affect listeners' ratings. The tables and figures below show the relationship between variables and comprehensibility and accentedness ratings.

6.7.1 Statistical analysis and the ratings of comprehensibility and accentedness correlation in Arabic reading style

The 798 observations from 133 responses on Arabic reading style, including characteristics of comprehensibility and accentedness as dependent variables, were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (standard, education, job, masculine, and kind) and the correlation between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects interactions that failed to reach significance (p-value>0.05) in a model were removed, and the model was rerun.

ANOVA was continuously applied to identify the better model to keep, and those with lower AIC scores if they show significance were kept; otherwise, the larger model was kept. The final-fitted model includes fixed effects that significantly improved the model in table 6.20 and 6.21 below.

The best-fitted models were found to have the fixed effects of one-way interactions between comprehensibility or accentedness and the standard, education, job, masculine, and kind. I included only the model with correlations. I tested the correct answer interactions given with standard, education, job, masculine, and kind. However, they showed no significant interaction. This demonstrates that whether listeners got the answer right or wrong did not affect the rating.

The independent variables (IVs) in the full model:
Standard: how standard does the speaker sound?

Education: how education does the speaker sound?

Masculine: how masculine does the speaker sound?

Kind: how kind does the speaker sound?

Job: I would like to hire this speaker to work as news presenter. Yes or No.

Table 6.20: Relationship between variable ratings as generated by mixed-effects regression model for comprehensibility rating in Arabic reading style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.89971	0.18156	40.5481	4.96E+00	1.33E-05	***
prop.standard	0.23157	0.03505	770.7631	6.607	7.30E-11	***
prop.education	0.1085	0.03588	772.7298	3.024	2.58E-03	**
prop.job	0.14855	0.02766	789.8741	5.37	1.04E-07	***
prop.masc	0.1858	0.02992	787.1818	6.209	8.60E-10	***
prop.kind	0.19078	0.02853	784.1915	6.688	4.31E-11	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.20 presents the results of the model. There were statistically significant effects of standard with a p-value of 7.30E-11, education with a p-value of 2.58E-03, job with a p-value of 1.04E-07, masculine with a p-value of 8.60E-10, and kind with a p-value of 4.31E-11. The positive value in the 'Estimate' column for standard, education, job, masculine and kind indicates that the more comprehensible the speakers sound the more positive ratings they receive.

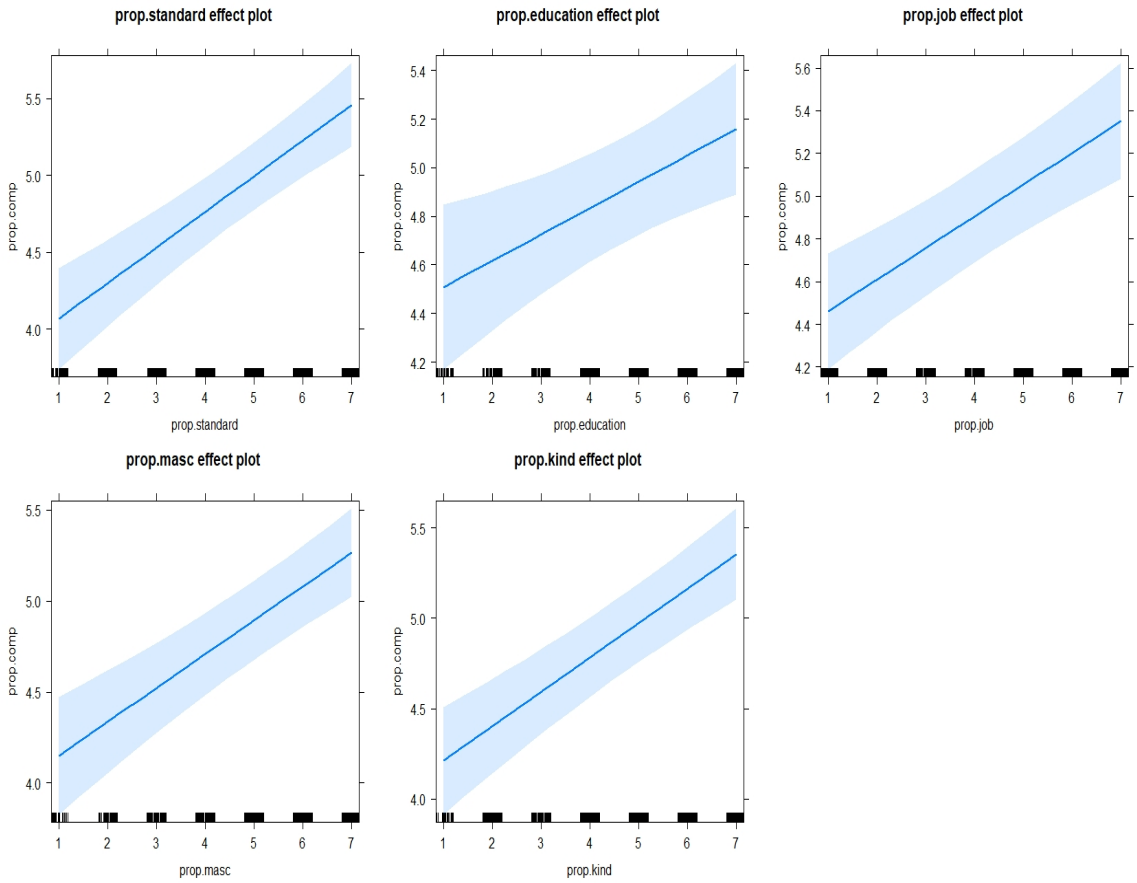

Figure 6.26: plots showing the effect of standard, education, job, masculine, and kind on comprehensibility rating in Arabic reading style.

Figure 6.26 shows the relationship between comprehensibility rating and social factors. The Y-axis represents the comprehensibility trait, while the X-axis represents the status and solidarity traits. The figure shows how listeners responded to the question 'how comprehensible do you think this speaker sounds?' in Arabic reading style when the speaker is incorrectly and correctly identified. The panes have the same trends; this means listeners judged speakers high on comprehensibility, and they rated the speakers high on standard, educated, employable, masculine and kind. This clarifies the more standard, education, employable, masculine and kind you sound, the rating of comprehensibility goes up.

Table 6.21: Relationship between variable ratings as generated by mixed-effects regression model for accentedness rating in Arabic reading style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	1.77662	0.22411	89.22836	7.93E+00	6.03E-12	***
prop.job	0.20727	0.03672	224.4936	5.645	4.96E-08	***
prop.masc	0.22582	0.04441	481.468	5.084	5.29E-07	***
prop.kind	0.17596	0.04457	743.3533	3.948	8.64E-05	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

Table 6.21 presents the results of the model. The coefficients of job, masculine and kind variables are significant with p values of 4.96E-08, 5.29E-07 and 8.64E-05. The positive value in the 'Estimate' column for a job, masculine and kind indicates that the higher the speaker's varieties were positively rated, the less accented the speakers were perceived.

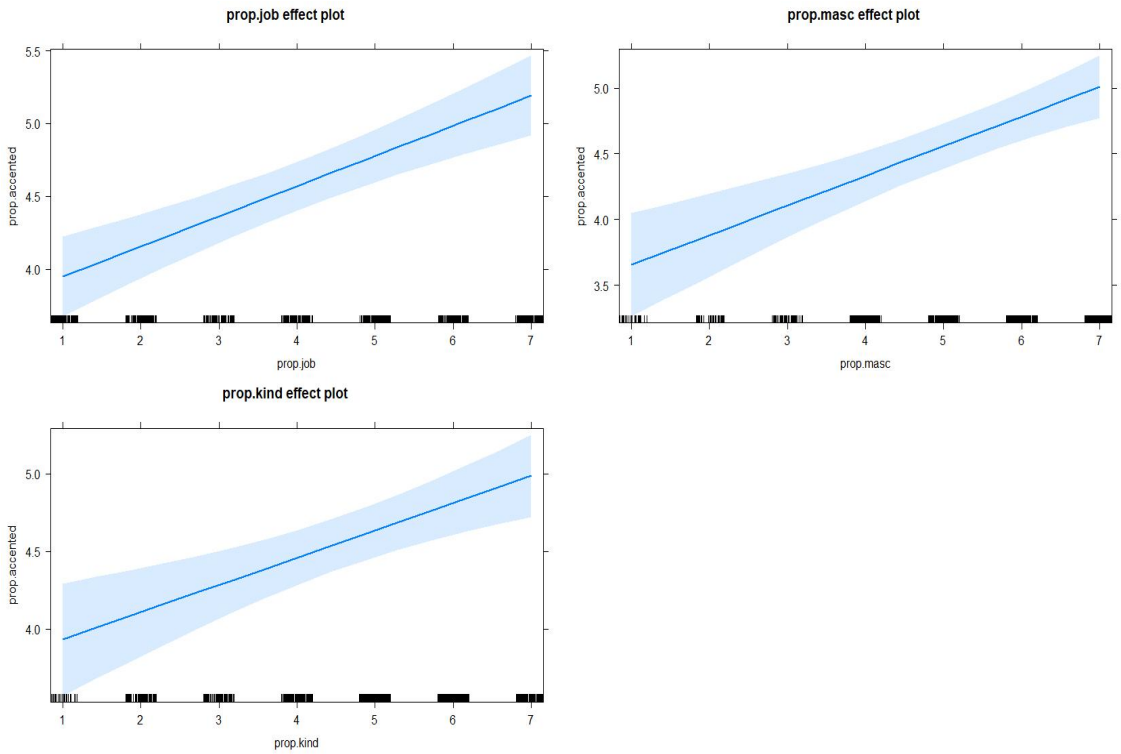

Figure 6.27: Plots showing the effect of job, masculine, and kind on accentedness rating in Arabic reading style.

Figure 6.27 plots the relationship between accentedness rating and social factors. The Y-axis represents the accentedness rating, while the X-axis represents the status and solidarity traits. The figure shows how listeners responded to the question 'how accented do you think

this speaker sounds?' in Arabic reading style when the speaker is incorrectly and correctly identified. The plots have the same trends; this means the higher the listeners score, the less accented the speakers sound.

6.7.2 Rating of comprehensibility and accentedness correlation in Arabic speaking style

The 774 observations from 129 responses on Arabic speaking style, including characteristics of comprehensibility and accentedness as dependent variables, were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (standard, education, job, masculine, and kind) and the correlation between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects interactions that failed to reach significance (p-value>0.05) in a model were removed, and the model was rerun.

ANOVA was applied continuously to decide the better model to keep, and those with lower AIC scores if they show significance were kept; otherwise, the larger model was kept. The final-fitted model includes fixed effects that significantly improved the model is found in table 6.22 and 6.23 below.

The best-fitted models were found to have the fixed effects of one-way interactions between comprehensibility or accentedness and the standard, education, job, masculine, and kind. I included only the model with correlations. I tested the interactions of correct answer given with standard, education, job, masculine, and kind but showed no significant interaction. This shows whether listeners get the answer right or wrong, it does not affect the rating. The syntax for the model is given below.

Table 6.22: Model showing Relationship between variable ratings as generated by mixed-effects regression model and comprehensibility rating in Arabic speaking style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.44583	0.19495	25.85416	2.29E+00	3.06E-02	*
prop.standard	0.23589	0.03602	668.8195	6.549	1.15E-10	***
prop.education	0.0866	0.03909	764.7883	2.215	2.70E-02	*
prop.job	0.18915	0.03122	668.7636	6.058	2.30E-09	***
prop.masc	0.22287	0.03098	618.843	7.194	1.83E-12	***
prop.kind	0.21	0.03727	760.5948	5.635	2.46E-08	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The results of the model indicate that the coefficients of standard, education, job, masculine and kind factors are significant with p values of 1.15E-10, 2.70E-02, 2.30E-09, 1.83E-12, and 2.46E-08, respectively. The positive value in the 'Estimate' column for standard, education, job, masculine and kind indicates that the higher the speaker's accents on these factors were positively rated, the more comprehensible they sound.

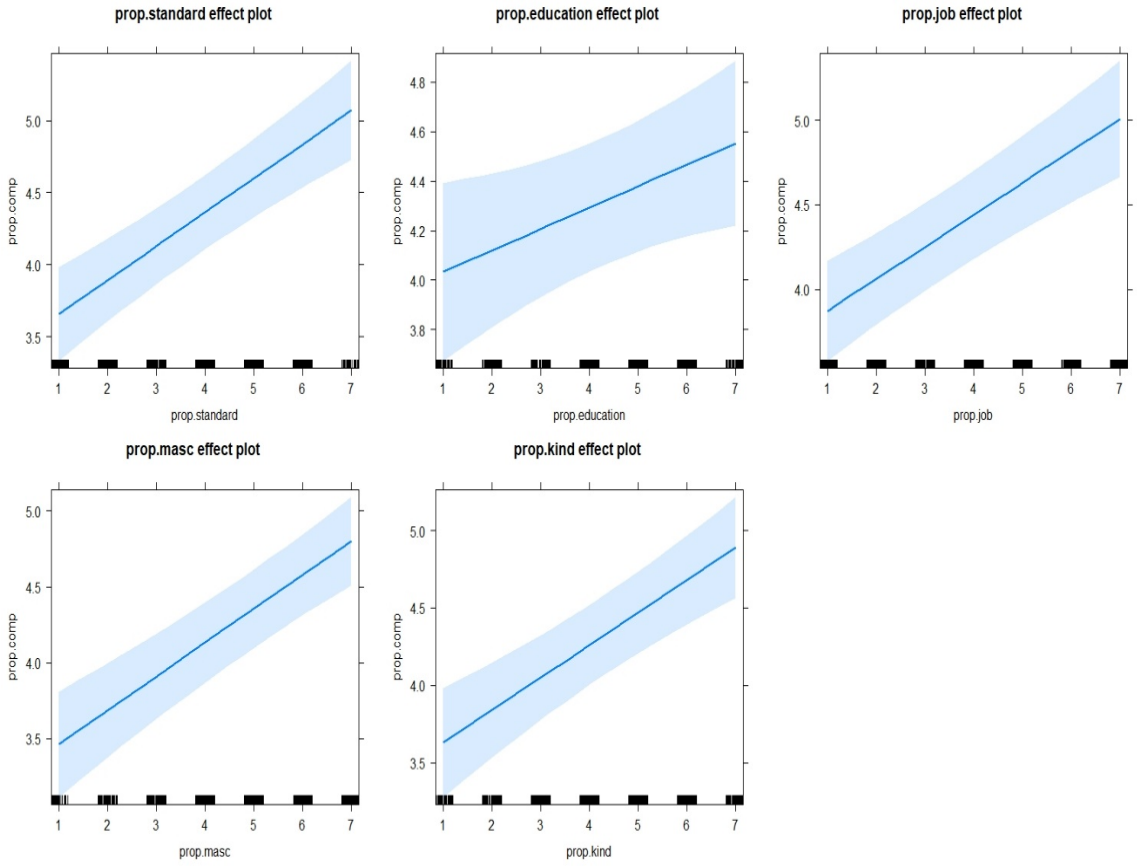

Figure 6.28: plots showing the effect of standard, education, job, masculine, and kind on comprehensibility rating in Arabic speaking style.

Overall, the plots have the same shapes and positions. This shows the higher the listeners understand the speakers, the ratings of comprehensibility on standard, education, employable, masculine and kind go up.

Table 6.23: Model shows the relationship between variable ratings generated by the mixed-effects regression model and the accentedness rating in the Arabic speaking style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.91931	0.21778	38.59999	4.221	0.000143	***
prop.standard	0.23594	0.04373	754.6712	5.396	9.15E-08	***
prop.education	0.13637	0.04609	766.2653	2.959	0.003184	**
prop.job	0.19854	0.03868	750.3125	5.134	3.63E-07	***
prop.kind	0.2197	0.04467	768.1136	4.919	1.07E-06	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The model indicates that the coefficients of standard, job and kind factors are significant with p values of 9.15E-08, 0.003184, 3.63E-07, and 1.07E-06, respectively. The positive value in the 'Estimate' column for standard, education, job and kind indicates that the speakers' higher ratings on these factors were positively rated, the less accented they are perceived.

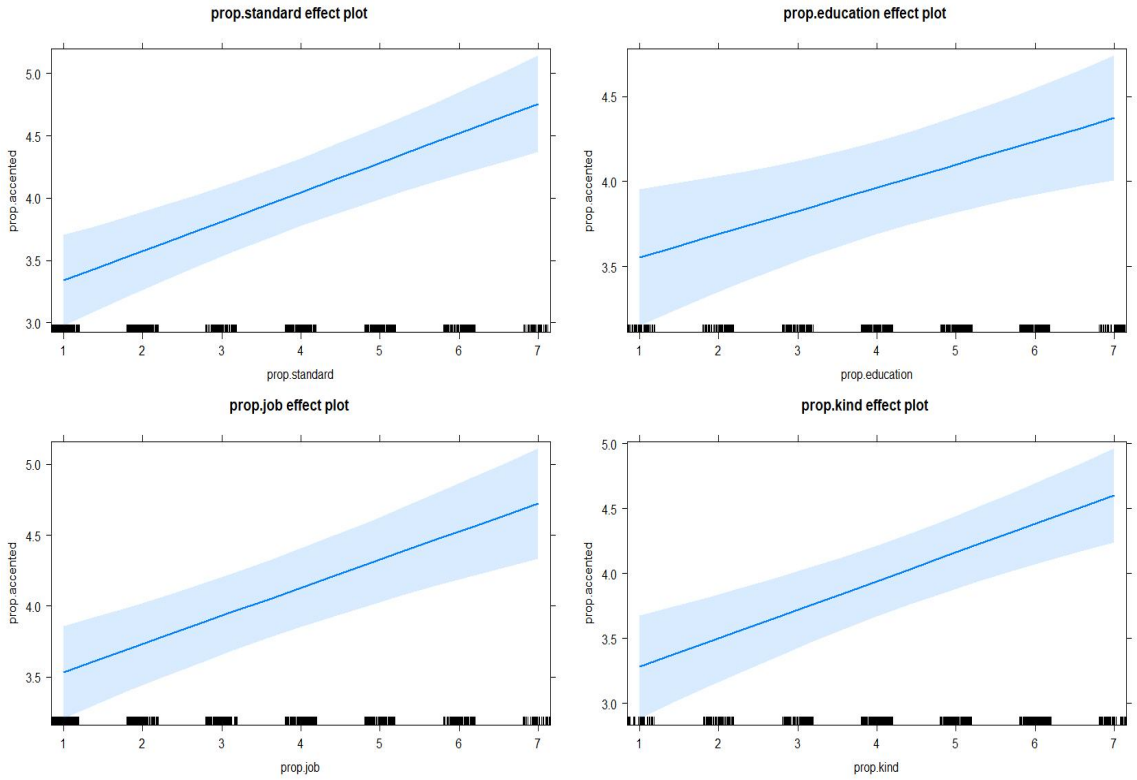

Figure 6.29: plots showing the effect of standard, education, job and kind on accentedness rating in Arabic speaking style.

Figure 6.29, overall, has the same shapes and positions. The plots show that while listeners rated the speakers high on these factors, speakers became less accented when the rating went up.

6.7.3 Rating of comprehensibility and accentedness correlation in English reading style

The 534 observations from 89 responses on English reading style including characteristics of comprehensibility and accentedness as dependent variables were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (standard, education, job, masculine, and kind) and the correlation between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects interactions that failed to reach significance (p-value>0.05) in a model were removed, and the model was rerun.

ANOVA was applied continuously to decide the better model to keep, and those with lower AIC scores if they show significance were kept; otherwise, the larger model was kept. The final-fitted model includes fixed effects that significantly improved the model is found in table 6.24 and 6.25 below.

The best-fitted models were found to have the fixed effects of one-way interactions between comprehensibility or accentedness and the standard, education, job, masculine, and kind. I included only the model with correlations. I tested the interactions of correct answer given with standard, education, job, masculine, and kind but showed no significant interaction. This shows whether you get the answer right or wrong, it does not affect the rating. The syntax for the model is given below.

Table 6.24: Model showing the relationship between variable ratings as generated by mixed effects regression model and comprehensibility rating in English reading style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.71478	0.19265	138.8773	3.71E+00	2.99E-04	***
prop.standard	0.12323	0.04124	519.2813	2.988	2.94E-03	**
prop.education	0.26262	0.04705	522.0994	5.581	3.84E-08	***
prop.job	0.17587	0.03337	495.0894	5.27	2.04E-07	***
prop.masc	0.19402	0.03488	477.1273	5.562	4.45E-08	***

prop.kind	0.14286	0.03779	527.459	3.78	1.74E-04	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The results of the model indicate that the coefficients of standard, education, job, masculine and kind factors are significant with p values of 2.94E-03, 3.84E-08, 2.04E-07, 4.45E-08, and 1.74E-04, respectively. The positive value in the 'Estimate' column for standard, education, job, masculine, and kind indicates that speakers with higher comprehensibility scores are more likely to rate them high on the status and solidarity factors.

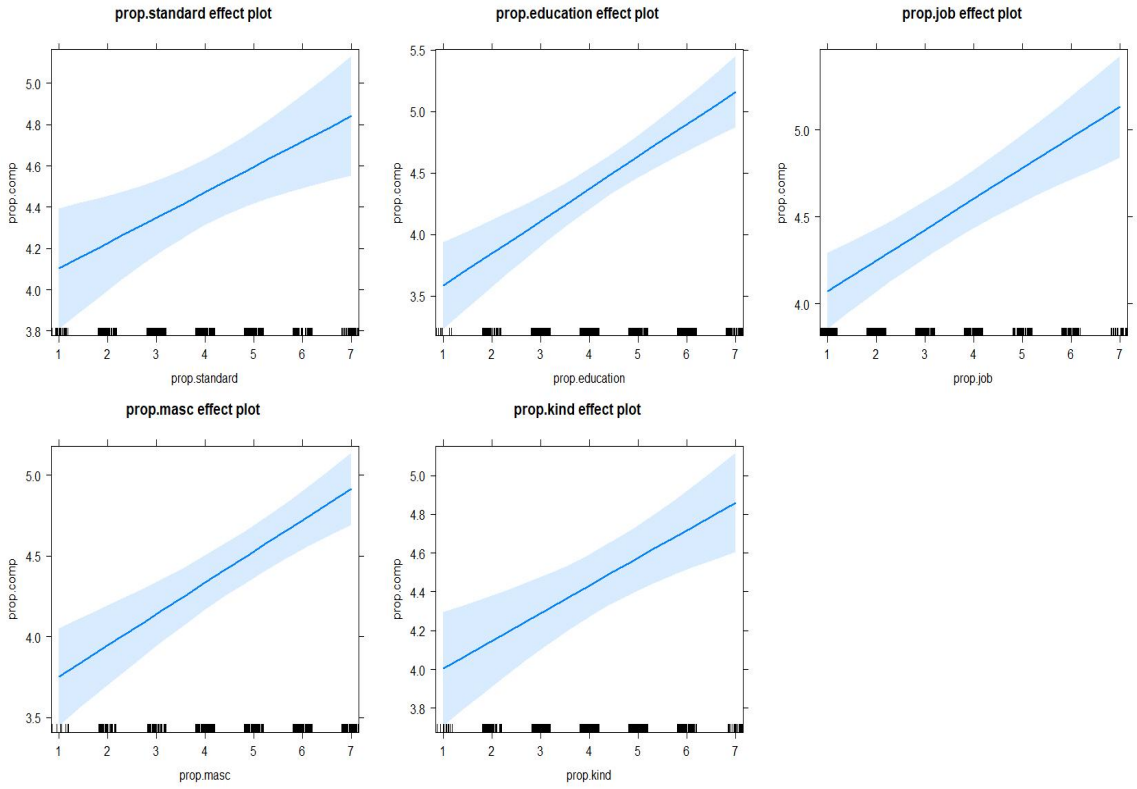

Figure 6.30: the relationship between comprehensibility rating and status and solidarity factors in English reading style.

Figure 6.30 has the same shapes and trends. The figure shows listeners' attitudes towards the speakers' comprehensibility. The plots show a positive relationship between comprehensibility rating and status and solidarity factors' scores, which means that the more comprehensible speakers sound, the higher their social factors.

Table 6.25: Model showing relationship between variable ratings as generated by mixed effects regression model and accentedness rating in English reading style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.92768	0.19832	104.2908	4.68E+00	8.73E-06	***
prop.standard	0.14996	0.04814	474.3466	3.115	1.95E-03	**
prop.education	0.15083	0.05414	422.1908	2.786	5.58E-03	**
prop.job	0.38404	0.03881	413.7514	9.895	2.00E-16	***
prop.masc	0.10032	0.03989	317.9221	2.515	1.24E-02	*

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The results of the model indicate that the coefficients of standard, education, job and masculine factors are significant with p values of 1.95E-03, 5.58E-03, 2.00E-16 and 1.24E-02, respectively. The positive value in the 'Estimate' column for standard, education, job, and masculine indicates that speakers with higher scores on status and solidarity are more likely to rate being perceived as less accented.

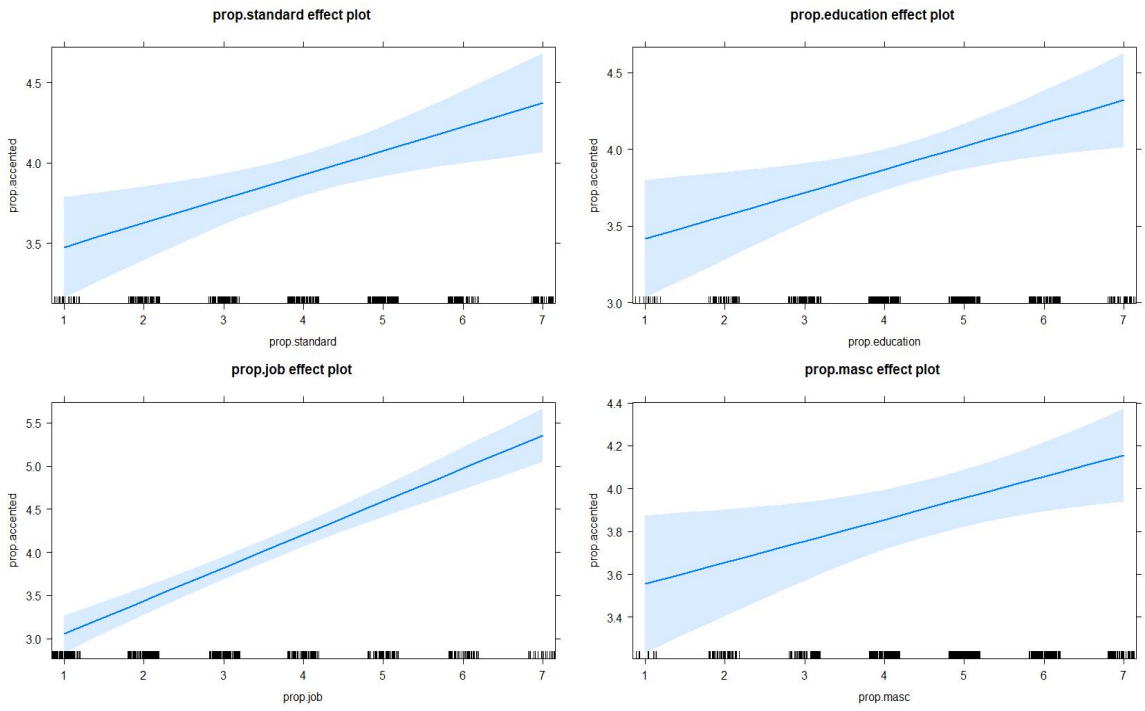

Figure 6.31: relationship between accentedness rating and status and solidarity factors in English reading style.

Figure 6.31 has the same shapes and trends. The figure shows listeners' attitudes towards the speakers' accentedness. The plots show a positive relationship between accentedness rating and status and solidarity factors' scores. The higher the speakers are rated on the social factors, the less accented they perceived.

6.7.4 Rating of comprehensibility and accentedness correlation in English speaking style

The 588 observations from 98 responses on English reading style, including characteristics of comprehensibility and accentedness as dependent variables, were hand-fitted into mixed-effects logistics regression models with the *glmer* function in the *lmer* library (Bates et al., 2014) implemented in R (R Core Team, 2018). The fixed effects (standard, education, job, masculine, and kind) and the correlation between the fixed effects were also tested. The *ResponseId* and *question* as random intercepts were used to control multiple responses per listener in the model. Fixed effects interactions that failed to reach significance (p-value> 0.05) in a model were removed, and the model was rerun.

ANOVA was applied continuously to decide the better model to keep, and those with lower AIC scores if they show significance were kept; otherwise, the larger model was kept. The final-fitted model includes fixed effects that significantly improved the model in table 6.26 and 6.27 below.

The best-fitted models were found to have the fixed effects of one-way interactions between comprehensibility or accentedness and the standard, education, job, masculine, and kind. I included only the model with correlations. I tested the interactions of correct answer given with standard, education, job, masculine, and kind but showed no significant interaction. This shows whether you get the answer right or wrong, it does not affect the rating. The syntax for the model is given below.

Table 6.26: Model showing the relationship between variable ratings as generated by mixed effects regression model and comprehensibility rating in English speaking style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.70031	0.15204	87.47484	4.61E+00	1.39E-05	***
prop.standard	0.24149	0.04306	579.9843	5.608	3.17E-08	***
prop.education	0.25301	0.04626	572.7906	5.469	6.76E-08	***
prop.job	0.1597	0.03236	420.6058	4.935	1.16E-06	***

prop.kind	0.23266	0.03965	525.5222	5.867	7.84E-09	***

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The results of the model indicate that the coefficients of standard, education, job and kind factors are significant with p values of 3.17E-08, 6.76E-08, 1.16E-06 and 7.84E-09, respectively. The positive value in the 'Estimate' column for standard, education, job and kind indicates that speakers with higher comprehensibility scores are more likely to be rated high on the status and solidarity factors.

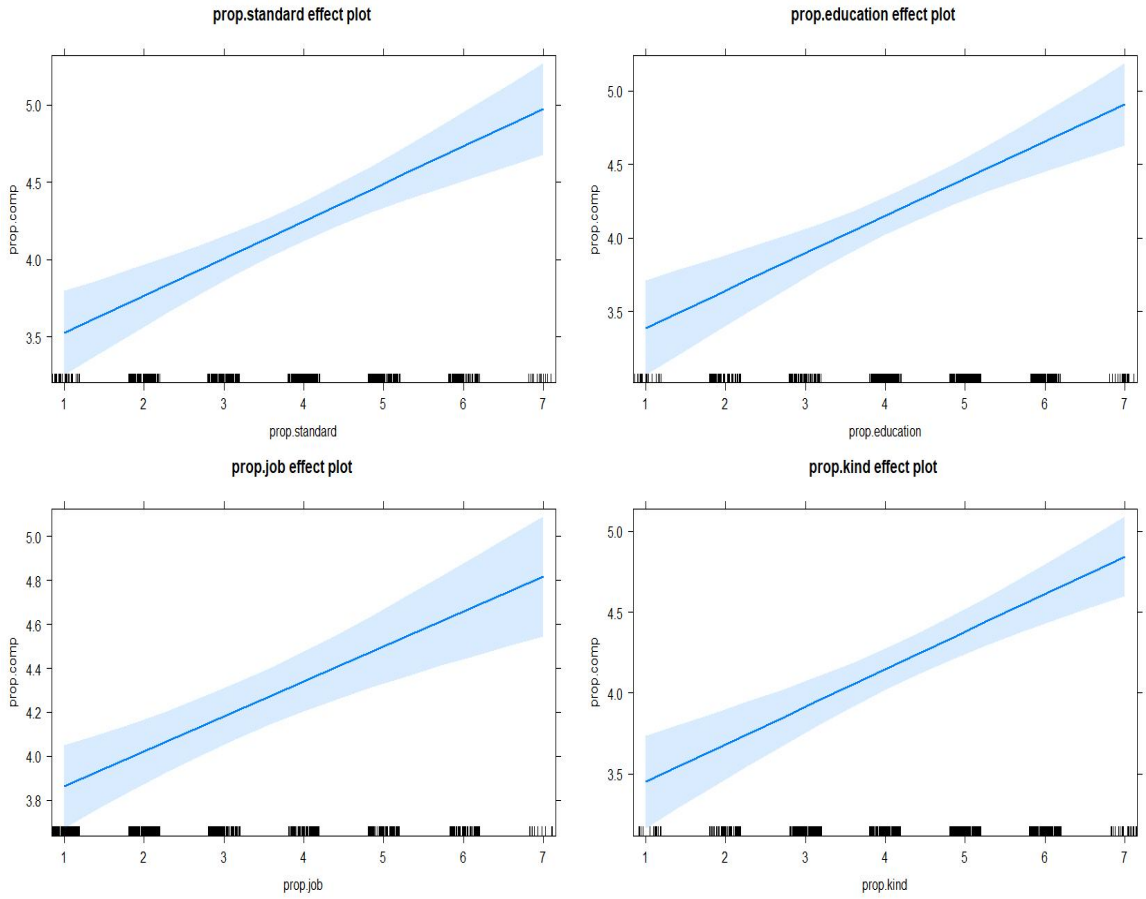

Figure 6.32: relationship between comprehensibility rating and status and solidarity factors in English speaking style.

Figure 6.32 has the same distributions. The figure shows listeners' attitudes towards the speakers' comprehensibility. The plots show a positive relationship between comprehensibility rating and status and solidarity factors' scores, which means that the more comprehensible speakers are sound, the higher scores they receive on the social factors. For example, if the speakers sound comprehensible, they are likely to be rated high on education.

Table 6.27: Model shows the relationship between variable ratings generated by the mixed effects regression model and the accentedness rating in the English speaking style

Fixed effects:						
	Estimate	Std. Error	df	t value	Pr(>|t|)	Sig
(Intercept)	0.98439	0.22333	159.0351	4.41E+00	1.91E-05	***
prop.education	0.32057	0.05618	407.1922	5.707	2.22E-08	***
prop.job	0.28266	0.04245	403.2862	6.659	9.07E-11	***
prop.masc	0.11574	0.0451	489.0465	2.566	0.0106	*

Signif. codes: '***' p<0.001 '**'p< 0.01 '*' p<0.05

The results of the model indicate that the coefficients of education, job and masculine factors are significant with p values of 2.22E-08, 9.07E-11 and 0.0106, respectively. The positive value in the 'Estimate' column for education, job, and masculinity indicates that speakers with higher scores on status and solidarity are more likely to be rated less accented.

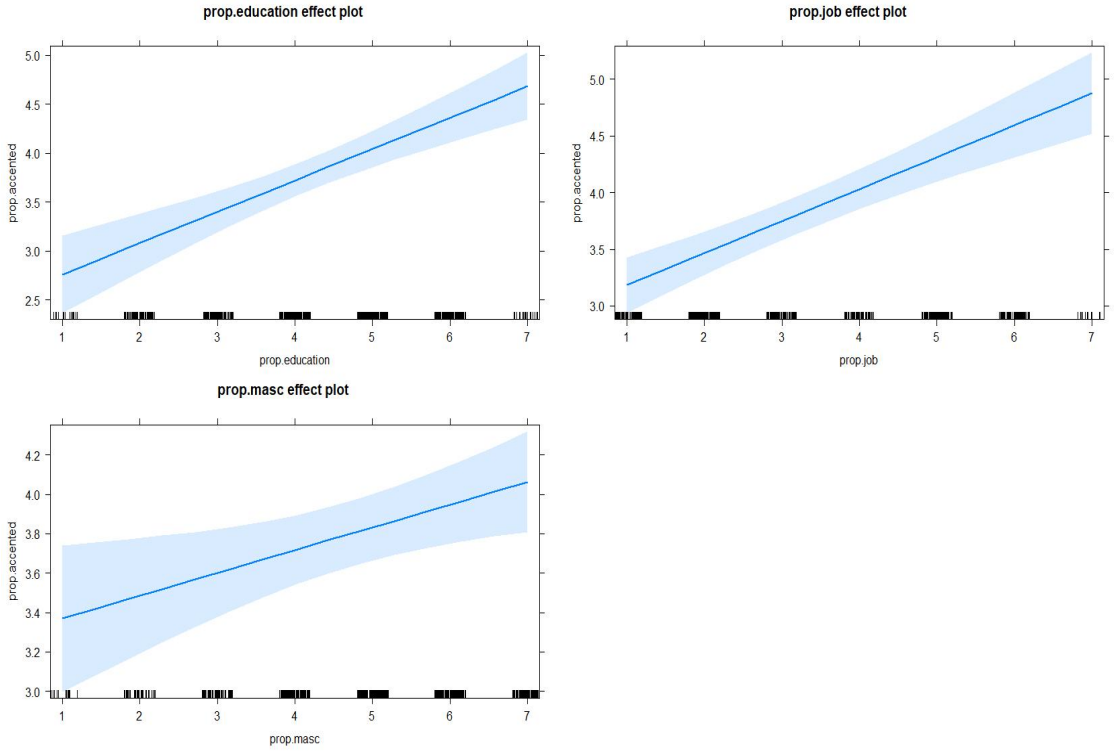

Figure 6.33: relationship between accentedness rating and status and solidarity factors in English speaking style.

Figure 6.33 has the same trends and distributions. The figure shows listeners' attitudes towards the speakers' accentedness. The plots show a positive relationship between accentedness rating and status and solidarity factors' scores, which means that the higher

the speakers are perceived on status and solidarity factors, the less accented they are perceived.

Overall, the correlation between comprehensibility and accentedness, as shown in question three above, is based on the language and the style. If a speaker is highly comprehensible, e.g., in Arabic reading style, they are likely to be less accented (close to Standard Arabic). If a speaker is incomprehensible in Arabic speaking style, they are likely to be strongly accented (far from Standard Arabic) see figures 6.16 to 6.19 above.

Being identified correctly or incorrectly does not significantly affect the ratings on comprehensibility. Listeners focused on the speakers' accents when judging the speakers, whether they sounded comprehensible or not. For example, the Moroccan speaker and the Jordan Bedouin speaker in Arabic speaking style, whether correctly or incorrectly identified, were rated low on comprehensibility; this does not necessarily mean they were not entirely comprehensible but, overall, less comprehensible than other speakers. Also, being less comprehensible or scored lower on the comprehensibility rating, you are likely to be rated accented. Moreover, the regional and dialectal features could have affected the ratings. This is in line with Derwing and Munro (1997, p. 2) that "a strong accent does not necessarily preclude fully intelligible speech". However, the Moroccan speaker was rated less comprehensible in the Arabic speaking style but was rated the most comprehensible in the Arabic reading style, which was rated less accented in the Arabic reading style. The Lebanese speaker, on the other hand, showed an opposite finding than the Moroccan speaker. For example, the Lebanese speaker showed that he was comprehensible in the Arabic speaking style but less comprehensible in the Arabic reading style. However, the Lebanese speaker was less comprehensible in the Arabic reading style because he did not use the standard variants in the reading style. However, if this is correct, why he was rated comprehensible in the speaking style and less comprehensible in the Arabic reading style if he uses his regional features in both styles? The plots above are an example that listener attitudes did not affect the ratings.

6.7.5 General discussion of question four

Listeners' ratings or evaluations of Arab speakers appeared to be related to how successfully the speakers' speeches in different languages and styles were comprehensible. In question 3, attitudes are related to perceived accentedness and comprehensibility. Results in question four show that speakers in different languages and styles were rated more positively, as the

more comprehensible the speaker is, the more e.g., standard, educated, and so on he sounds. The gender differences were not significant as they failed to converge. Many researchers have stressed that L2 speaking ability should be analysed from different dimensions, such as comprehensibility and accentedness (Derwing & Munro, 2009; Saito & Shintani, 2016); recent studies have started to investigate what factors or linguistic errors could affect L2 speakers of being comprehensible in L2 speech, and judgment of perceived accentedness (Crowther et al., 2015; Saito et al., 2015, 2016; Trofimovich & Isaacs, 2012). However, this study examines L1 (Arabic) and L2 (English) speech assessments by L1 listeners. This question investigates whether or not there is a relationship between comprehensibility and accentedness for speakers using different languages and styles, as responded to by listeners. This question has not focused on individual ratings but rather on the ratings of the characteristic factors and their relation to comprehensibility and accentedness. This relationship also affects listeners' ratings towards speakers' comprehensibility and accentedness when correctly or incorrectly identified in different languages and styles.

The figures above show that the speakers, in general, were rated the most comprehensible and the least-accented in relation to different factors (standard, education, job, masculinity, and kindness). For example, if a speaker sounds more educated, he will be rated more comprehensible and less accented no matter what language or style he speaks. However, it is hard to see whether the factors affected the ratings of comprehensibility or accentedness or being comprehensible and less or more accented affected listener perceptions. According to the comprehensibility data, the listeners understood the speakers no matter where they came from and were rated less accented. It has been argued that the reading material contains fewer mistakes and has been perceived as less accented than spoken material because speakers have ample time to monitor their pronunciation (Munro & Derwing, 1994). The comprehensibility and accentedness scores were essentially identical in both languages and styles. In general, the results of question four failed, partially, to support other studies that determined that read material is likely to be rated less accented than spoken material. Different results could probably have been acquired had we evaluated intelligibility (Munro & Derwing, 1994, 1995a). It has also been reported that harsher accents are rated accented even though they sound comprehensible (Munro et al., 2006). It must be pointed out that the listeners did not listen to all languages and styles; they only listen to one style and language but not to all of them.

Listeners were not distracted by grammatical errors, whether in Arabic or English, of different styles because listeners and speakers, as previously mentioned, come from the

same language background. Pronunciation and vocabulary were correlated with what listeners rely on in their judgments. Findings show that more lexical content, in Arabic reading (Standard Arabic), was associated with higher comprehensibility and seemed less accented than occurs in speaking Arabic. This finding is consistent with previous studies that L2 speakers' familiarity with L2 vocabulary can impact the quality of L2 productions in the speaking style, and listeners' severity ratings (Munro & Derwing, 1994; Trofimovich & Isaacs, 2012). In general, listeners rely on semantic lexical utterances to assign speech ratings or to identify speakers (Gass & Varonis, 1984). Question four confirms that L1 speakers' familiarity with L1 accent and L2 accent can impact the ratings and the quality of productions (Trofimovich and Isaacs (2012), and listeners rely on speaker utterances to assign speech ratings (Gass & Varonis, 1984).

As previously mentioned, previous studies on language attitudes have shown that strongly accented speech tends to be rated low on status but high on solidarity (Dragojevic et al., 2017). However, the ratings in this study are, in general, based on the characteristics of the speakers' accents, language, style, and the correct or incorrect identification of the speaker. This question of the relationship between comprehensibility and accentedness indicates that the more frequently the listeners perceived the speakers' accents as being more comprehensible and less accented, the higher the speaker was rated on characteristic factors. However, previous studies have shown a link between listeners' attitudes and their comprehensible ratings and accents. Previous research studies noted that a listener's belief and attitudes about a speaker's accent might affect their judgments. For example, Lindemann (2002) found that native speakers, who had negative attitudes towards non-native speakers rated their communication with them as unsuccessful even though they had successful interactions. In this study, I examined the listeners' beliefs about the relationship between different languages and styles. In sum, there was a considerable variation among Arab listeners that the accent, level of correctness of using the standard form of a language, pronunciation, and clarity of the speech influence the ratings.

Munro and Derwing (1994) state that there were no differences in the ratings of speakers in reading or speaking conditions on accentedness. I argue with them that listeners were able to distinguish the differences between styles on comprehensibility and accentedness dimensions in this study. Listeners, as previously mentioned, rated speakers in Arabic reading style higher than in Arabic speaking style. However, overall, in this study, the differences in the content of each style have slightly differed for the speakers but have not affected the ratings to receive higher accented ratings when (mis)identified in the

speaking styles, or light accented ratings when (mis)identified in the reading style except certain varieties. Figures 6.16 to 6.23 did not show the relationship between comprehensibility and accentedness and other factors; they show the individual clips' ratings for each characteristic. For example, the Moroccan speaker in the Arabic speaking style in figure 6.16 was rated the least comprehensible from listeners not from the same region. As a result, he was rated strongly accented in the Arabic speaking style in figure 6.17. However, the Moroccan speaker in the boxplot 6.18 in Arabic reading style on comprehensibility was rated highly comprehensible and rated less accented, whether listeners were from the same region or not. On the other hand, the Lebanese speaker was judged to be more comprehensible and less accented in the Arabic speaking style than in the Arabic reading style. So, being identified correctly or incorrectly did not affect the ratings (see Appendix F).

To a certain degree, the ratings remained the same with somehow, overall, preference to the reading style. Overall, listeners rated the speakers more comprehensible in English reading style than in English speaking style, and, therefore, were rated less accented in English reading style. For example, the Egyptian speaker was rated comprehensible in the English speaking and reading styles but was rated strongly accented in both styles. This finding confirms with previous results that a speaker's accent does not necessarily reduce comprehensibility (Munro and Derwing (1995a); however, the Jordan Bedouin speaker was rated somewhat low on comprehensibility in English of both styles and thus was rated strongly accented. These findings contradict previous findings that a speaker's accent does not reduce comprehensibility (Munro & Derwing, 1995a).

In general, the findings reported in question four – if there is a correlation between comprehensibility and accentedness ratings – to a certain degree failed to support the hypothesis of previous research that reading style is likely to be less accented than speaking style (Munro & Derwing, 1994); for some speakers, it was, but not for all. Munro and Derwing (1994) state that a potential reason why the reading style is likely to be rated less accented is that the speakers have more time to focus on producing the correct standard features than they do in the speaking style.

However, listener attitudes did not play a significant role at this level of ratings. Listeners did not pay attention to the speakers as they cared about how comprehensible and accented the speakers were. This is not to say negative attitudes affected the whole ratings or positive attitudes did not. So, speakers who were rated negatively in a style were rated positively on another style. This was noticeable in figures 6.16 to 6.19 in Arabic of both

styles, but it was not apparent in figures 6.24 to 6.27. The speakers who were rated high or reasonably high on comprehensibility were positively evaluated less accented. Such factors could also account for those with positive attitudes to negative attitudes towards the speakers. That is to say, the pronunciation accounted for accentedness more than comprehensibility, which in turn accounted for the ease of understanding speaker accent and speech rate (Saito et al., 2015).

The listening task was not important to the listeners whether the speaker or the style was identified correctly or not, as no communication occurred in any style (Lindemann, 2000). So, the lack of correlation between listeners' attitudes towards comprehensibility and accentedness scores suggests no effect of social factors on perception. Previous studies found a relationship between listeners' stereotypes of gender and perception of individual speech sounds, such as the fricatives /s/-/ʃ/ distinction (Strand, 1999). The accentedness judgment task is widely used in the study of second-language speech (Hayes-Harb & Hacking, 2015; Hayes‐Harb & Watzinger‐Tharp, 2012; Munro & Derwing, 1994). Despite this, we know little about how listeners evaluated accentedness.

Taken together and according to Saito et al. (2015), the accentedness perception is strongly associated with the pronunciation of the speaker. In contrast, the perceived comprehensibility is linked to pronunciation, speech rate and other linguistic variables. The fact is the speakers were rated higher in English on the comprehensibility of both styles than on accentedness because a speaker may be more comprehensible but can be accented (Derwing & Munro, 2009; Munro & Derwing, 1995a; Saito et al., 2015).

Going back to question 4, if the ratings of comprehensibility and accentedness are related to attitudes and if they are correlated, the findings showed that if speakers are rated more standard, they are rated more comprehensible and less accented. Overall, listener ratings were based on the speaker's accent, voice, pronunciation, standardness in producing the standard variants, how easy it was to understand the Arabic speech and the clarity of speech.

6.8 Chapter summary

In this chapter, I have summarised the findings and discussed the final picture of listeners' identification of the speakers and attitudes and perceptions of the speakers' accents. More importantly, I have discussed how listeners correctly or incorrectly identified the speakers' nationalities in different languages and styles. I also corresponded to the findings of other

study investigations in some Arab countries, particularly when colloquial Arab varieties are evaluated negatively.

Speakers were easily identified in Arabic speaking style more so than in Arabic reading style, and more in Arabic than in English, as shown in figures 6.1 and 6.2 above. Also, the speaker ratings were based on the correctness and the incorrectness of the speakers' nationalities. Though it showed a slightly significant effect, figures 6.9 to 6.13 showed that some speakers were rated higher when correctly identified than when misidentified. In terms of comprehensibility and accentedness, comprehensibility ratings showed no significant effect and failed to converge, but accentedness ratings showed a significant impact, as can be seen in figures 6.16 to 6.17. It shows that, overall, whether listeners get the answer right or wrong does not significantly affect the ratings. When testing the relationship between comprehensibility, accentedness and other factors, the more listeners rate the factors high, the more speakers seem more comprehensible and less accented.

Chapter 7: Conclusion

This dissertation explored attitudes towards Jordanian dialects and 17 Arab varieties utilizing accent labels (Study 1) and listeners' attitudes towards speakers of different language varieties and styles involved in a large-scale language and dialect perceptions and identification using audio clips (Study 2). Participants in Study 1 rated the 17 Arab varieties differently according to what characteristics were presented to them such as 'social', 'pleasant', 'tough', 'understandable', 'power', and 'wealth'. In Study 2, listeners based their attitudes on what they heard and, according to different languages and styles. Level of awareness, regional awareness, and familiarity with varieties play an important role in listener perceptions and attitudes (as shown in chapter 6, section 6.1), and when attempting to identify speakers' nationalities or dialects. Generally, the findings obtained from the two studies suggest that the participants (study 1) and listeners (study 2) tend to rate the standard variety more positively than the non-standard varieties. In this section, I summarised the answers to my research questions.

The first research question in Study 1 was: What attitudes do Jordanian people hold towards MSA variety, Urban, Rural, and Jordanian Bedouin spoken dialects in terms of prestige, preference, and dialect heritage? The findings showed that there is a correlation between attitudes and social factors of the participants in terms of language variety prestige (see figure 5.1). The findings, overall, showed that the Urban dialect was rated the prestigious from all age groups. The MSA variety was rated higher by older age groups than younger age groups. The Bedouin dialect was rated the least prestigious among participants of different age groups gender and education. Both female and male respondents rated the Urban dialect as a prestige variety, but female respondents rated the Urban dialect much higher than male respondents. The Urban dialect was rated the most prestigious by female responses followed by the MSA variety, while in the male responses, they almost rated the MSA variety and the Urban dialect the same on the prestige line. The Bedouin variety was rated the least prestigious by both female and male responses. There was a significant interaction between education and dialect; only the other education slightly rated the Bedouin a prestigious dialect, while the Urban dialect received positive ratings from the rest of the educational levels. From the perspective of speakers' dialects. Participants boosted their dialect and rated it as a prestige dialect. In terms of dialect preference, participants of each dialect variety preferred their dialects. However, overall, the Urban dialect was rated the most preferred when used by Urban, Bedouin, and Rural speakers (see table 5.3). In

terms of the Jordanian society's original dialect, findings showed that the Bedouin dialect was rated the original dialect of the Jordanian society.

Research question 2 was: What social variables (if any) seem to be significant in predicting Jordanians' attitudes towards Standard Arabic and Jordanian colloquial varieties? This question focused on 20 judgmental statements to what extent you strongly agree and strongly disagree using a 7-point slider scale. The findings suggest there is a correlation between the four PC factors and the social factors, and the higher the number of participants score, the more likely they are to disagree with PC statements. The results show that participants appeared to disagree that the Urban dialect is associated with prestige, education, and social status particularly older participants. The findings also suggest that male participants showed positive attitudes to maintaining their dialect more than women which represent their identity. The findings also suggest that participants appeared not to agree that the standard variety might not be used in formal speech and rural and Bedouin dialects might disappear. However, they agreed that each speaker's dialect is understood among other speakers. Finally, the findings showed that older age groups, particularly 36-40 and 46+ disagree with changing their dialect to a prestigious one when talking to friends and disagree with not maintaining their dialect in daily communication.

Research question 3 was: What language attitudes do Jordanian people hold towards Arabic varieties in terms of status and solidarity? Overall, dialects from outside Jordan, Syrian and Lebanese were not always ranked high. They were rated high on 'pleasant', and 'understandability' traits, but they were rated lower on 'toughness'. The Gulf Arabic varieties were rated low on 'social' and 'pleasant', 'understandability', and 'power' traits but they were ranked high on 'wealth' characteristics.

In Study 2, listener judges were Arabs from different Arab countries and elsewhere, who listened to audio recordings of several Arab speakers reading and retelling short texts in Arabic and English.

Research question 4 of study 2 was 'where is the speaker from?' Several forced options were provided to select from. Results have shown correct identification confirms that there is a correlation between language variety identification and social factors. Findings show that Arabic was identified more correctly than English, the speaking style more so than the reading style, and male listeners more accurate at identification than female listeners.

Research question 5 of study 2 was 'do listeners assign different semantic characteristics towards speakers in speaking Arabic, reading Arabic, speaking English, and

reading English?' A question was posed to the listeners, e.g., 'how educated do you think the speaker sounds?' in reading and speaking styles in Arabic and English in terms of status and solidarity traits. Findings confirm interactions between status and solidarity-related traits and correct answer given and correct dialect. Standard, education and masculine traits showed significant interactions with Arabic reading style. In terms of English, Standard and kindness showed an interaction between correct answer given and correct dialect in the English speaking style. Findings suggest that the more correctly a speaker is identified the more positive rating he receives.

Research question 6 of study 2 was 'how comprehensible do you think each speaker sounds?', to determine the degree to which listeners found comprehensible and accented each speaker's variety in Arabic and English styles. Findings showed that comprehensibility was not significant, but accentedness was significant in Arabic speaking style and English reading style. Findings suggest that there is an interaction effect of correct answer given and correct dialect. The Moroccan speaker in Arabic speaking style, though was rated heavily accented when correctly or incorrectly identified, but was rated less accented when correctly identified than when incorrectly identified. However, in the English reading style, the Moroccan speaker was rated heavily accented when correctly identified than when incorrectly identified. Listeners carry with them to the listening task several beliefs and values about the varieties being judged (Gass & Varonis, 1984).

Research question 7 of study 2 looked at if the listener's attitude affects accentedness and comprehensibility ratings of speakers, and if there is a correlation between accentedness and comprehensibility. Findings were found to have mixed effects interactions between comprehensibility or accentedness and status and solidarity-related traits. Findings also show that the, e.g., the more standard a speaker sounds on reading style, the more positive ratings he receives on comprehensibility. Additionally, the higher the speaker scores on accentedness the less accented the speaker sounds.

The thesis investigated participants' and listeners' attitudes towards standard and non-standard Arabic varieties as well as Arabic-accented English in reading and speaking styles. It aimed to explore whether listeners' perceptions towards the standard and non-standard varieties could affect the ratings if listeners could successfully identify the speakers or not.

The study has several implications on issues related to Arabic sociolinguistics, language attitudes, language variety identification, the nature of status and solidarity, and comprehensibility and accentedness. In general, the study of language attitudes,

accentedness, and comprehensibility is important because it helps further our understanding of the nature of Arabic sociolinguistics, and it is social dimensions. Familiarity with different Arabic varieties, such as phonological features, are essential to provide listeners with accent cues on how to recognise a variety. Many schools in the Arab world restrict the teaching of SA language-based classes. This thesis has important implications on speakers' competency in practicing SA in their daily conversations to enhance proficiency, as well as maintaining their non-standard Arabic features as a representation of identity. Listeners also need to be aware and knowledgeable of the accent cues of non-standard Arabic varieties.

The study has several implications, both direct and indirect. Direct implications relate to several issues concerning Arabic sociolinguistics, language attitudes, and the relationship between language attitudes, comprehensibility and accentedness. I have offered an updated account, based on a large-scale survey, of contemporary attitudes towards different varieties of Arabic. I also showed that although, as noted above, language attitudes are not often studied alongside comprehensibility and accentedness, doing so can be fruitful.

Indirect implications are those which do not directly come from the thesis research itself, but for which the thesis could provide a useful starting point. For example, in terms of Arabic language policy, although the main objective of the current study is to measure attitudes towards varieties of Arabic, in particular Standard Arabic and other Arabic varieties, the results may offer some insights for the choices of a linguistic model and the design of language policy both inside and outside Arab countries. For instance, the variety of Arabic taught in schools nowadays is still SA, rather than non-standard Arabic varieties. Children are exposed to SA when they join school and also through media. SA plays a role in the unity of all Arab countries (Al-Kahtany (1997), and also is considered a lingua franca and a culture free form. This study has shown that people react different to SA, showing that attitudes are attached to SA, as they are other varieties. Policy makers, and teachers, should of course be aware of this. Schools could also help make students become more familiar with different L1 Arabic varieties to increase students' awareness of Arabic varieties, which has social and linguistic implications and increases comprehensions of different Arabic varieties. This could have a positive influence on their attitudes towards these varieties. Similarly, it may be helpful to familiarise students with L1-accented English, which may facilitate familiarity of different accents, and in turn, improve confidence when interacting with speakers of English. Even though this thesis did not directly examine these issues, the results are connected to these complex issues studies elsewhere in sociolinguistics

and Applied Linguistics and could have important implications for future in these areas and more broadly into language classroom practices.

7.1 Limitations and recommendations for future research

This dissertation, in Study 1 and Study 2, focused on participants' and listeners' attitudes towards certain Arabic varieties, including MSA. Although the findings provided a useful understanding of the complex nature of the attitudes of Arabs towards varieties of Arabic and Arabic-accented English, a few limitations exist. First, the chosen participants to participate in Study 1 were Jordanians in Jordan and elsewhere. If I included other Arab speakers from other Arab countries, the findings might change. Second, the number of participants was imbalanced as most participants came from Rural and Urban dialect backgrounds. Finally, the study was conducted online, and no control was exerted over participants' understanding of the content of the survey. To generalise the findings, it would be advantageous to include a broader range of other Arab nationalities for status and solidarity-related questions.

Study 2 of the thesis was limited to a small number of chosen varieties and did not represent all the Arab varieties. First, it was decided from the beginning to record male participants; however, to validate the findings, it would be worth investigating listeners' evaluations of female speakers of Arabic varieties (McKenzie, 2006, p. 253). However, female speakers were not included, so as to eradicate any possible effect of gender in the data Abunasser (2015) and due to cultural reasons. Female participants might feel shy when being recorded or when others hear their recorded voices. Some female speakers might suppress their regional phonological features and replace them with standard or prestigious features.

Second, the status and solidarity related items were very few, and it would be worthwhile including more status and solidarity-related dimensions and linguistic factors such as pronunciation, speech rate, quality of the speech, grammar, and lexical factors Hiraga (2005, p. 299), particularly for comprehensibility and accentedness questions.

Third, it was unknown which specific linguistic features led to language variety identification, but listeners tended to identify speakers according to pronunciation features. Further research is needed to determine which linguistic elements McKenzie (2006) of language varieties are salient for future research. Therefore, it is desirable to include a question for future research that seeks to determine how listeners knew or what makes them sure that a speaker is from a specific nationality.

Fourth, in the dialect identification question, more options were provided to select from, and listeners were confused. Hence, it was better not to include more varied selections in the nationality question. Fifth, speakers were not trained to read properly in Arabic reading style, and some of the speakers failed to apply the MSA variants in their reading style speech, which affected the results. Henceforth, it was better to train people to read Standard Arabic properly.

Sixth, speakers were told to read a short text and retell it. However, some speakers did not retell correctly, and instead, they copied the same structure and words of the reading text. To minimise the effects of the resulting listener fatigue and for future research, it is advisable to either ask speakers to describe a map or have a short interview with the speakers to spontaneously talk about things in general, rather than retelling a short text.

Seventh, Arab speakers were told to read and retell short texts in Arabic and English, and listeners were Arab judges. To reveal more attitudes of Arab listeners, future studies should require recordings of Arab speakers and other varieties of English for evaluation. Arab listeners were small in number in this thesis, and the majority were from Jordan due to time limitations, which meant results could not portray a general picture of attitudes across a range of Arab listeners. Moreover, the number of listeners was imbalanced, and the findings cannot be generalised. Therefore, listeners from each country should be somewhat balanced, as well as including listeners from English-speaking countries for the English recording.

Finally, having both questionnaires run online made it impossible to obtain a balance of the participants. For example, most study 1 participants came from two major cities, and the majority of listeners in study 2 came from Jordan. The intelligibility of an Arabic variety and Arabic-accented English in both styles may be of great importance to validate each variety's familiarity on the intelligibility score (Munro & Derwing, 1995a, 2006), and compare their ratings of intelligibility scores with the comprehensibility and accentedness scores. Does it mean that being comprehensible affects the intelligibility ratings or affect accentedness ratings? As Zhang (2010) has pointed out, familiarity with a variety, as the findings of this study determine, did not influence listeners' attitudes towards the accents.

The current study examined the interaction of comprehensibility, accentedness, and semantic traits towards varieties of Arabic and Arabic-accented English in both styles. However, the interaction failed to converge but reached a statistically significant relationship. The potential relationship between comprehensibility, accentedness, and status and solidarity factors shows that the more comprehensible a variety is, the more positive the

listeners' attitudes are towards status and solidarity items. This positive relationship was done through an indirect investigation, but it is worthwhile studying the relationship between comprehensibility, accentedness, and status and solidarity-related items through a direct investigation. As shown in chapter 5, section 5.4, Jordanian participants were asked e.g., how social, pleasant, tough, understanding, powerful, and wealthy each language variety speaker seems? To generalise the findings, it is worthwhile asking Arab participants about these kinds of questions using the direct method.

There is also a concern over speaker proficiency in Standard Arabic concerning listeners' perception of the varieties. Listeners were asked a direct question 'how standard do you think this speaker sounds in Arabic', of both styles. Models failed to converge, so figures were excluded, but speakers were rated higher on Standardness in Arabic reading style than in Arabic speaking style. Another direct question listeners should have been asked was whether speakers' Standard Arabic reached proficiency or not. Therefore, there is an essential need for more work incorporating these semantic variables into attitudes studies. McKenzie (2006) states that self-perceived proficiency towards standard/non-standard varieties of English is an influential factor. Moreover, self-rating (Zhang (2010) could be an essential factor in comparing speakers' (internal) ratings on semantic-differential scales when they hear themselves, with listeners' (external) ratings.

Listeners' evaluations in general of the reading style are broadly parallel with previous studies, in that the MSA or the reading style was perceived positively by subjects in different domains (Al-Kahtany, 1997; El-Dash & Tucker, 1975; Herbolich, 1979; Hussein & El-Ali, 1989). My study of both parts reveals that these positive attitudes towards Arabic reading style or MSA were rated higher than the Arabic speaking style. The positive attitude towards the Arabic reading style or the MSA might be due to its powerful, eloquent, expressive, and comprehensible characteristics, rather than that of spoken vernacular varieties.

In conclusion, this chapter has considered the contributions and limitations presented in this thesis. I have also outlined some of the recommendations for future studies, e.g., including female speakers, the balance of the listeners to represent significantly different perceptions of their varieties, asking speakers to rate themselves, interviewing or asking participants to describe a map, and including other varieties of English and English native listeners as judges. It is also sensible to ask indirectly or directly about the best Arabic spoken accent. Also, there should be other ways or techniques from the perceptual dialectology field Montgomery (2007) to design a study to measure recognition rates while

listeners are presented with a map of the Arab world and then, first, identify the nationality of the speakers when listening to each stimulus, second, to measure attitudes by asking listeners to rate or rank the nationalities of the speakers in terms status and solidarity.

7.2 Contributions of the study

This thesis adds to the existing literature by documenting the attitudes of Arab people towards language varieties, comprehensibility, accentedness of Arabic and Arabic-accented English. Unlike previous research on language attitudes in the Arab world, this study has employed both direct method (accent label), indirect methods (audio recording), and methods of statistical analysis such as mixed-effects regression model and principal component analysis. It also employed Arab listeners of various ethnic and dialectal backgrounds. This study looked at the role of gender, age groups, level of education, language varieties, and region while recording the attitudes of Arabs towards 17 Arabic accents. This combination enhances new insights into our understanding of Arabic sociolinguistics in different domains.

Study 1 examined Jordanian participants of three different main dialects in Jordan and elsewhere towards Jordanian dialects in terms of prestige, preference, and dialect origin as well as participants' attitudes towards 17 Arabic accents in terms of status and solidarity. Study 2 recorded speakers of various Arab countries in Arabic and English in two different styles (reading vs speaking) and employed listeners from all the Arab countries and elsewhere to identify the nationality of the speakers using a predetermined list. The findings confirmed that there is a relationship between participants' attitudes and listeners' attitudes. Furthermore, this study contributes to the existing literature on whether the correct or incorrect identification of the speakers could affect listeners' ratings in terms of status, solidarity, accentedness, comprehensibility, and job employment.

Overall, this thesis has contributed to the literature on language attitudes research in Arabic Sociolinguistics and provides the Arabic communities with important data regarding the attitudes of people towards Arabic varieties and Arabic-accented English. This study will benefit researchers and research students interested in language attitudes in general, Arabic attitudes, and attitudes towards comprehensibility and accentedness. I hope this thesis is a starting point for other research studies, and I hope it motivates other researchers to explore other Arab nationalities.

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Appendix A

Accent labels

Online questionnaire

The primary goal of the present project is analyze participants reactions and attitudes towards Modern Standard Arabic (MSA), Jordanian colloquial varieties, namely (urban, rural, and Bedouin), and other Arabic varieties in terms of status and solidarity.

The instrument used in the study is an online language questionnaire. Questions fall into three sections.

Section one: **Personal information**.

1- Gender Male Female

2- Age:

3- Region: choose from a list Amman, Balqa, Zarqa, Irbid, Mafraq, Ajloun, Jerash, Madaba, Tafila, Kerak, Ma'an, and Aqaba.

4- What is your highest level of education?

1- Bachelor

2- Master

3- Ph.D

4- Other

5- Major:

6-Current city residence:

7- Your own dialect:

1- Urban (madani)

2- Rural (fallahi)

3- Bedouin

8- Your father's dialect

1- Urban (madani)

2- Rural (fallahi)

3- Bedouin

9- Your mother's dialect?

1- Urban (madani)

2- Rural (fallahi)

3- Bedoui

10- Rate the Jordanian varieties below in terms of high prestige on the scale of one to seven. One the least and seven the most.

A- Modern Standard Arabic (MSA) 1----------7

B- Urban 1----------7

C- Rural 1----------7

D- Bedouin 1----------7

11- Which variety do you prefer? Modern Standard Arabic, Urban, Rural, or Bedouin

12- Which dialect is the authentic variety of the Jordanian society? Modern Standard Arabic, Urban, Rural, or Bedouin

Section Two: language attitude: To what extent do you agree or disagree with the following?

No.	Statement	Strongly agree	agree	Fairly agree	Not necessarily	Fairly disagree	disagree	Strongly disagree
Attitudes towards different Jordanian dialects								
1	My dialect represents my identity.							
2	Talking in an urban dialect means a speaker is educated							
3	Speakers dissociate themselves from their local dialects when they switch to the urban dialect.							
4	My dialect is the nearest to the Arabic-Fus'ha							

5	My dialect is widely understood among other dialect speakers.							
6	I change my own dialect to a more prestigious dialect among friends.							
7	I use my dialect to maintain social conformity.							
8	There is no need to maintain my own dialect.							
9	My dialect is underestimated among friends.							
10	I use different dialects with different people							
11	It is accepted to hear an urban dialect in news or political speeches.							
12	Men maintain their own dialects more often than women do.							
13	I am proud of my dialect.							
14	I want my children to become familiar with their parents' dialects							
15	Rural and Bedouin dialects will							

	disappear one day.							
16	The majority of future generation will not maintain the standard dialect in their formal speech							
17	I occasionally imitate other Jordanian dialects							
18	The urban (?) sound/or dialect is associated with modernization, prestige and civilization							
19	The urban dialect is endowed with high status							
20	Rural dialect is endowed with clarity and eloquence.							

Section Three: Classify the following Arabic language below on the scale of one to seven. One the least and seven the most

NO	Dialects	How social is it?
1	Modern Standard Arabic	1 2 3 4 5 6 7
2	Urban (madani) dialect	1 2 3 4 5 6 7
3	Rural (fallahi) dialect	1 2 3 4 5 6 7
4	Bedouin dialect	1 2 3 4 5 6 7
5	Palestinian Arabic	1 2 3 4 5 6 7
6	Saudi Arabic	1 2 3 4 5 6 7

7	Jeddah dialect	1 2 3 4 5 6 7
8	Kuwaiti Arabic	1 2 3 4 5 6 7
9	UAE Arabic	1 2 3 4 5 6 7
10	Iraqi Arabic	1 2 3 4 5 6 7
11	Egyptian Arabic	1 2 3 4 5 6 7
12	Sa'adi Egyptian dialect	1 2 3 4 5 6 7
13	Lebanese Arabic	1 2 3 4 5 6 7
14	Syrian Arabic	1 2 3 4 5 6 7
15	Yemeni Arabic	1 2 3 4 5 6 7
16	Moroccan Arabic	1 2 3 4 5 6 7
17	Sudanese Arabic	1 2 3 4 5 6 7

NO	Dialects	How understandable is it?
1	Modern Standard Arabic	1 2 3 4 5 6 7
2	Urban dialect	1 2 3 4 5 6 7
3	Rural dialect	1 2 3 4 5 6 7
4	Bedouin dialect	1 2 3 4 5 6 7
5	Palestinian Arabic	1 2 3 4 5 6 7
6	Saudi Arabic	1 2 3 4 5 6 7
7	Jeddah dialect	1 2 3 4 5 6 7
8	Kuwaiti Arabic	1 2 3 4 5 6 7
9	UAE Arabic	1 2 3 4 5 6 7
10	Iraqi Arabic	1 2 3 4 5 6 7
11	Egyptian Arabic	1 2 3 4 5 6 7
12	Sa'adi Egyptian dialect	1 2 3 4 5 6 7
13	Lebanese Arabic	1 2 3 4 5 6 7
14	Syrian Arabic	1 2 3 4 5 6 7

15	Yemeni Arabic	1 2 3 4 5 6 7
16	Moroccan Arabic	1 2 3 4 5 6 7
17	Sudanese Arabic	1 2 3 4 5 6 7

NO	Dialects	How pleasant is it?
1	Modern Standard Arabic	1 2 3 4 5 6 7
2	Urban dialect	1 2 3 4 5 6 7
3	Rural dialect	1 2 3 4 5 6 7
4	Bedouin dialect	1 2 3 4 5 6 7
5	Palestinian Arabic	1 2 3 4 5 6 7
6	Saudi Arabic	1 2 3 4 5 6 7
7	Jeddah dialect	1 2 3 4 5 6 7
8	Kuwaiti Arabic	1 2 3 4 5 6 7
9	UAE Arabic	1 2 3 4 5 6 7
10	Iraqi Arabic	1 2 3 4 5 6 7
11	Egyptian Arabic	1 2 3 4 5 6 7
12	Sa’adi Egyptian dialect	1 2 3 4 5 6 7
13	Lebanese Arabic	1 2 3 4 5 6 7
14	Syrian Arabic	1 2 3 4 5 6 7
15	Yemeni Arabic	1 2 3 4 5 6 7
16	Moroccan Arabic	1 2 3 4 5 6 7
17	Sudanese Arabic	1 2 3 4 5 6 7

NO	Dialects	How powerful is it?
1	Modern Standard Arabic	1 2 3 4 5 6 7
2	Urban dialect	1 2 3 4 5 6 7
3	Rural dialect	1 2 3 4 5 6 7

4	Bedouin dialect	1	2	3	4	5	6	7
5	Palestinian Arabic	1	2	3	4	5	6	7
6	Saudi Arabic	1	2	3	4	5	6	7
7	Jeddah dialect	1	2	3	4	5	6	7
8	Kuwaiti Arabic	1	2	3	4	5	6	7
9	UAE Arabic	1	2	3	4	5	6	7
10	Iraqi Arabic	1	2	3	4	5	6	7
11	Egyptian Arabic	1	2	3	4	5	6	7
12	Sa’adi Egyptian dialect	1	2	3	4	5	6	7
13	Lebanese Arabic	1	2	3	4	5	6	7
14	Syrian Arabic	1	2	3	4	5	6	7
15	Yemeni Arabic	1	2	3	4	5	6	7
16	Moroccan Arabic	1	2	3	4	5	6	7
17	Sudanese Arabic	1	2	3	4	5	6	7

NO	Dialects	How wealthy is it?						
1	Modern Standard Arabic	1	2	3	4	5	6	7
2	Urban dialect	1	2	3	4	5	6	7
3	Rural dialect	1	2	3	4	5	6	7
4	Bedouin dialect	1	2	3	4	5	6	7
5	Palestinian Arabic	1	2	3	4	5	6	7
6	Saudi Arabic	1	2	3	4	5	6	7
7	Jeddah dialect	1	2	3	4	5	6	7
8	Kuwaiti Arabic	1	2	3	4	5	6	7
9	UAE Arabic	1	2	3	4	5	6	7
10	Iraqi Arabic	1	2	3	4	5	6	7
11	Egyptian Arabic	1	2	3	4	5	6	7
12	Sa’adi Egyptian dialect	1	2	3	4	5	6	7

13	Lebanese Arabic	1 2 3 4 5 6 7
14	Syrian Arabic	1 2 3 4 5 6 7
15	Yemeni Arabic	1 2 3 4 5 6 7
16	Moroccan Arabic	1 2 3 4 5 6 7
17	Sudanese Arabic	1 2 3 4 5 6 7

NO	Dialects	How tough is it?
1	Modern Standard Arabic	1 2 3 4 5 6 7
2	Urban dialect	1 2 3 4 5 6 7
3	Rural dialect	1 2 3 4 5 6 7
4	Bedouin dialect	1 2 3 4 5 6 7
5	Palestinian Arabic	1 2 3 4 5 6 7
6	Saudi Arabic	1 2 3 4 5 6 7
7	Jeddah dialect	1 2 3 4 5 6 7
8	Kuwaiti Arabic	1 2 3 4 5 6 7
9	UAE Arabic	1 2 3 4 5 6 7
10	Iraqi Arabic	1 2 3 4 5 6 7
11	Egyptian Arabic	1 2 3 4 5 6 7
12	Sa'adi Egyptian dialect	1 2 3 4 5 6 7
13	Lebanese Arabic	1 2 3 4 5 6 7
14	Syrian Arabic	1 2 3 4 5 6 7
15	Yemeni Arabic	1 2 3 4 5 6 7
16	Moroccan Arabic	1 2 3 4 5 6 7
17	Sudanese Arabic	1 2 3 4 5 6 7

If you would like to receive the results of the present project and share more of your opinions for future research on this subject or other areas with me please write your email address here:

Thanks for your time.

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Appendix B

Understanding Arabic Language Varieties

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Understanding Arabic Language Varieties

Information Sheet for speakers

You are invited to participate in a research project investigating Arabic Language varieties. If you choose to participate in this study, your participation will involve, first, completing an online questionnaire, which has a few questions about you, second, your involvement in this project will be to:

1- Read four short texts both in standard Arabic and standard English and then retell them.

2 Complete a short background questionnaire, including, age, home dialect or language variety, level of education and level of English.

You will be recorded on a digital recorder and the time expected is no longer than 30 minutes.

The audio clips will be used in a listening task, which will be completed by other people. They will be asked questions about your voice. They will never be told who you are, and they will not be able to identify you.

All information will be confidential. I will not use your name or other identifying details in the study. The information you provide will not identify you, and participation is totally voluntary. You can withdraw at any time or stage of recording with no penalty even after the recording is completed. It will not be possible to remove your data once the listening task has begun.

The results of the project may be published in academic journals, but you may be assured of the complete confidentiality of data gathered in this investigation: I assure you no personal information about you will be made public. The results will also be written up for the PhD thesis, which will be a public document which will be available through the University of Canterbury library. Only the researcher and the supervisors have access to the raw data. The data will be stored for 10 years on secured computer servers, and then destroyed.

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out as a requirement for PhD Thesis by Muneir Gwasmeh under the supervision of Dr. Kevin Watson, who can be contacted at muneir.gwasmeh@pg.canterbury.ac.nz and kevin.watson@canterbury.ac.nz. They will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch human-ethics@canterbury.ac.nz.

If you agree to participate in the study, you are asked to complete the consent form on the next page.

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Consent Form

Understanding Arabic Language varieties

The project is a sociolinguistic study. The study investigates the relationship between attitudes, accentedness and comprehensibility and whether there is a relationship between a listener's attitude of a speaker and the listener's rating of the speaker's accentedness and comprehensibility. That is, for example, if a listener responds positively towards the voice of speaker, is that listener more likely to rate the speaker as more understandable? This project will therefore explore whether listeners' perception and attitudes about a speaker can affect their ratings of accentedness and comprehensibility. The project will also explore how well listeners can identify dialects of Arabic (e.g. Jordanian, Moroccan, Lebanese). The project will also explore the phonological features which predict particular ratings and identifications. For example, are particular sounds the cause of low/high accentedness ratings, and which particular sounds help listeners identify the regional origin of speakers? And what sounds facilitate the correct identification of Arabic dialects?

- ☐ I have been given a full explanation of this project and have had the opportunity to ask questions.
- ☐ I understand what is required of me if I agree to take part in the research.
- ☐ I understand that participation is voluntary and I may withdraw at any time with no penalty. If I choose to withdraw, all information I have provided will be removed.
- ☐ I understand that any information or opinions I provide will be kept confidential to the researcher and his supervisors and that any published or reported results will not identify the participants.
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after *ten* years.
- ☐ I understand that I can contact the
- ☐ I understand that I can receive a report of the findings of the project by contacting the researcher at the conclusion of the project by providing your email address.
- ☐ I would like a summary of the results of the project.
- ☐ By confirming below, I agree to participate in this research project.
- ☐ I agree that my voice will be used for the purpose of the research.

Questionnaire for speakers:

Questionnaire for speakers: The survey falls into two parts. The first part is background information and the second part is English language proficiency information in order to assess their ability to speak, listen, read and write in English.

First part of the questionnaire: Background Information

1- Gender: A- Male

2- Age: A- 18-24 B- 25-30 C- 31-35

3- Your level of Education: 1- Bachelor 2- Masters 3- Ph.D.

4- What country are you from? ----------.

5- What region of Jordan/ your country are you from? ----------.

6- Where do you live now? ----------.

7- What is your own dialect or language variety?

1- Urban

2- Rural

3- Bedouin

4- Egyptian

5- Iraqi

6- Lebanese

7- Moroccan.

8- What other languages can you speak or understand very well beside Arabic, if any, list them please? ----------.

9- What was the medium of instruction at the University?

1- Only Arabic

2- More Arabic and less English

3- More English and less Arabic

4- Only English

Second part of the questionnaire: English language Proficiency Information

10- Overall, how would you describe your English proficiency?

1- Excellent

2- Very good

3- Good

4- Fairly well

5- Not very well

6- No more than a few words or phrases

7- Not at all

11- How well are you able to speak English?

1- Excellent (I can talk freely and fluently about anything in English)

2- Very well (I can talk about almost anything in English)

3- Well (I can talk about many things in English)

4- Fairly well (I can talk about some things in English)

5- Not very well (I can talk about simple/ basic things in English)

6- No more than a few words or phrases

7- Not at all

12- How well are you able to understand spoken English of English native speakers?

1- Excellent (I can understand anything said in English)

2- Very well (I can talk understand almost anything in English)

3- Well (I can understand many things in English)

4- Fairly well (I can understand some things in English)

5- Not very well (I can understand simple /basic things in English)

6- No more than a few words or phrases

7- Not at all

13- How well are you able to understand spoken English of Arab speakers?

1- Excellent (I can understand anything said in Arabic English)

2- Very well (I can talk understand almost anything said in Arabic English)

3- Well (I can understand many things said in Arabic English)

4- Fairly well (I can understand some things said in Arabic English)

5- Not very well (I can understand simple /basic things said in Arabic English)

6- No more than a few words or phrases

7- Not at all

14- How well are you able to read English with understanding?

1- Excellent (I can read and understand anything in English)

2- Very well (I can read and understand almost anything in English)

3- Well (I can read many things in English)

4- Fairly well (I can read some things in English)

5- Not very well (I can read simple/ basic things in English)

6- No more than a few words or phrases

7- Not at all

15- How well are you able to write in English?

1 Excellent (I can write anything in English)

2- Very well (I can write almost anything in English)

3- Well (I can write many things in English)

4- Fairly well (I can write some things in English)

5- Not very well (I can only write simple /basic things in English)

6- No more than a few words or phrases

7- Not at all

16- Have you ever lived in an English speaking country?

Yes, No. If yes, where ----------, and for how long----------?

17- Have you ever been educated in a non-English speaking country and the medium of instruction was in English?

Yes, No. If yes, where ----------, and for how long, ----------?

18- If you wish to receive a summary of the results, please provide your email below.

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Appendix C

Understanding Arabic Language Varieties

Department of Linguistics

Telephone: +64 2102446151

Email: muneir.gwasmeh@pg.canterbury.ac.nz

Understanding Arabic Language Varieties

Information Sheet for Listeners

You are invited to participate in a research project investigating Arabic Language varieties. If you choose to participate in this study, your participation will involve, first, completing an online questionnaire, which has a few questions about you, second, listening to a number of Jordanian and Arabic speakers randomly talking in Arabic and English on different short topics. Each speaker talks for no longer than 20 seconds. After that you will be requested to answer some questions such as 'how educated does this speaker sound?', 'how friendly does this speaker sound?' 'how strong is the speaker's accent? ' The time allocated for the listening task two (group two) is no longer than 20 minutes.

All information you provide will be anonymous. You will not be asked to give your name or other identifying details, but there will be some demographic information about you, e.g. place where you live now, age, gender, dialect spoken, education, and level of English proficiency. The information you provide will not identify you, and as the listening task is totally voluntary, you have the right to withdraw from the project at any time; this includes withdrawal of any information before you submit your responses. However, it will not be possible to withdraw your data once you have submitted the survey, since I will not be able to identify the part of the results that are specific to you.

The results of the project may be published but you may be assured of the complete confidentiality of data gathered in this investigation: no personal information about you will be made public. The results will also be written up for the PhD thesis, which will be a public document which will be available through the University of Canterbury library. Only the researcher and the supervisors have access to the raw data. The data will be stored for 10 years on secured computer servers, and then destroyed.

The project is carried out by Muneir Gwasmeh as a requirement for PhD thesis at the Department of Linguistics in the University of Canterbury in Christchurch, New Zealand, under the supervision of Kevin Watson, who can be contacted at muneir.gwasmeh@pg.canterbury.ac.nz and kevin.watson@canterbury.ac.nz . They will be pleased to discuss any concerns you may have about.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project. If you agree to participate in the study, you are asked to complete the consent form on the next page.

Consent form

Language attitude and dialect identification experiment

The project is a sociolinguistic study (sociolinguistics is the study of the way language is used in society and of society's effect on language which can be determined by social and cultural factors). The study investigates the relationship between attitudes (the way you think and feel about someone or something), accentedness (how strong is an accent) and comprehensibility (how easy it is to understand someone's speech) and whether there is a relationship between a listener's attitude of a speaker and the listener's rating of the speaker's accentedness and comprehensibility. That is, for example, if a listener responds positively towards the voice of speaker, is that listener more likely to rate the speaker as more understandable? This project will therefore explore whether listeners' perception and attitudes about a speaker can affect their ratings of accentedness and comprehensibility. The project will also explore how well listeners can identify dialects of Arabic (e.g. Jordanian, Moroccan, Lebanese). The project will also explore the phonological features (system of sounds) which predict particular ratings and identifications. For example, are particular sounds the cause of low/high accentedness ratings, and which particular sounds help listeners identify the regional origin of speakers? And what sounds facilitate the correct identification of Arabic dialects?

I have read and understood the description of the above named project. On this basis I agree to participate as a subject in the project and I consent to publication of the result of the project with the understanding that anonymity will be preserved.

I have been given a full explanation of this project and have had the opportunity to ask questions.

I understand what is required of me if I agree to take part in the research.

I understand that participation is voluntary and I may withdraw until I have submitted my results, after which it will be impossible to retrieve my results because they will be stored anonymously.

I understand that any information or opinions I provide will be kept confidential to the researcher and his supervisor and that any published or reported results will not identify the participants.

I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after *ten* years.

I understand that I can contact the researcher muneir.gwasmeh@pg.canterbury.ac.nz or supervisor kevin.watson@canterbury.ac,nz for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)

I would like a summary of the results of the project.

By confirming below, I agree to participate in this research project.

If you would like to participate, you can go to the next page.

Questionnaire for listeners

The survey falls into two parts. The first part is background information and the second part is related to their English proficiency to assess their ability to speak, listen, read and write in English.

First part of the questionnaire: Demographic information

1- Gender: Male Female

2- Age: 18-30 31-40 41-50 51-60 61+

3- Your level of Education: Bachelor Master Ph.D. College Other

4- Where are you from? Forced options provided

5- Where do you live now?

6- What region of Jordan are you from?

1- Amman 2- Balqa'a 3- Madaba 4- Zarqa 5- Irbid 6- Mafraq

7- Jerash 8- Ajloun 9- Kerak 10- Tafila 11- Ma'an 12- Aqaba.

7- What is your own dialect? Only Jordanian listeners. 1- Urban 2- Rural 3- Bedouin

7- What other languages can you speak or understand very well/ well beside Arabic, if any, list them please? ----------.

8- What was the medium of instruction in schools, college or university?

1- Only Arabic

2- More Arabic and less English

3- More English and less Arabic

4-English and another language

5- Another language (name it please) ----------.

6- Only English.

Second part of the questionnaire: English language proficiency

9- How can you in general evaluate your English proficiency?

1 Excellent

2- Very good

3- Good

4- Fairly good

5- Not very good

6- No more than a few words or phrases

7- Not at all

10- How good is your spoken English?

1- Excellent (I can talk freely and fluently about anything in English)

2- Very good (I can talk about almost anything in English)

3- Good (I can talk about many things in English)

4- Fairly good (I can talk about some things in English)

5- Not very good (I can talk about simple/ basic things in English)

6- No more than a few words or phrases

7- Not at all

11- How good is your understanding of English native speakers?

1- Excellent (I can understand anything said in English)

2- Very good (I can talk understand almost anything in English)

3- Good (I can understand many things in English)

4- Fairly good (I can understand some things in English)

5- Not very good (I can understand simple /basic things in English)

6- No more than a few words or phrases

7- Not at all

12- How good is your understanding of English spoken by Arab speakers?

1- Excellent (I can understand anything said in Arabic English)

2- Very good (I can talk understand almost anything said in Arabic English)

3- Good (I can understand many things said in Arabic English)

4- Fairly good (I can understand some things said in Arabic English)

5- Not very good (I can understand simple /basic things said in Arabic English)

6- No more than a few words or phrases

7- Not at all

13- How good is your reading of English?

1- Excellent (I can read and understand anything in English)

2- Very good (I can read and understand almost anything in English)

3- Good (I can read many things in English)

4- Fairly good (I can read some things in English)

5- Not very good (I can read simple/ basic things in English)

6- No more than a few words or phrases

7- Not at all

14- How good is your writing of English?

1 Excellent (I can write anything in English)

2- Very good (I can write almost anything in English)

3- Good (I can write many things in English)

4- Fairly good (I can write some things in English)

5- Not very good (I can only write simple /basic things in English)

6- No more than a few words or phrases

7- Not at all

15- If you wish to receive a summary of the results, please provide your email below.

16- Kindly, if you want, leave your feedback or suggestion about the project.

Appendix D

Correct and Incorrect Identification of Arab speakers

Region	Identification	Language	Style	No.	Prop
Egypt	Correct	Arabic	Reading	128	96.2
Egypt	Incorrect	Arabic	Reading	5	3.76
Egypt	Correct	Arabic	Speaking	124	96.1
Egypt	Incorrect	Arabic	Speaking	5	3.88
Egypt	Correct	English	Reading	70	78.7
Egypt	Incorrect	English	Reading	19	21.3
Egypt	Correct	English	Speaking	78	79.6
Egypt	Incorrect	English	Speaking	20	20.4
Iraq	Correct	Arabic	Reading	34	25.6
Iraq	Incorrect	Arabic	Reading	99	74.4
Iraq	Correct	Arabic	Speaking	97	75.2
Iraq	Incorrect	Arabic	Speaking	32	24.8
Iraq	Correct	English	Reading	3	3.37
Iraq	Incorrect	English	Reading	86	96.6
Iraq	Correct	English	Speaking	11	11.2
Iraq	Incorrect	English	Speaking	87	88.8
Jordan Bedouin	Correct	Arabic	Reading	26	19.5
Jordan Bedouin	Incorrect	Arabic	Reading	107	80.5
Jordan Bedouin	Correct	Arabic	Speaking	52	40.3
Jordan Bedouin	Incorrect	Arabic	Speaking	77	59.7
Jordan Bedouin	Correct	English	Reading	27	30.3
Jordan Bedouin	Incorrect	English	Reading	62	69.7
Jordan Bedouin	Correct	English	Speaking	19	19.4
Jordan Bedouin	Incorrect	English	Speaking	79	80.6
Jordan Rural	Correct	Arabic	Reading	31	23.3
Jordan Rural	Incorrect	Arabic	Reading	102	76.6
Jordan Rural	Correct	Arabic	Speaking	73	56.6

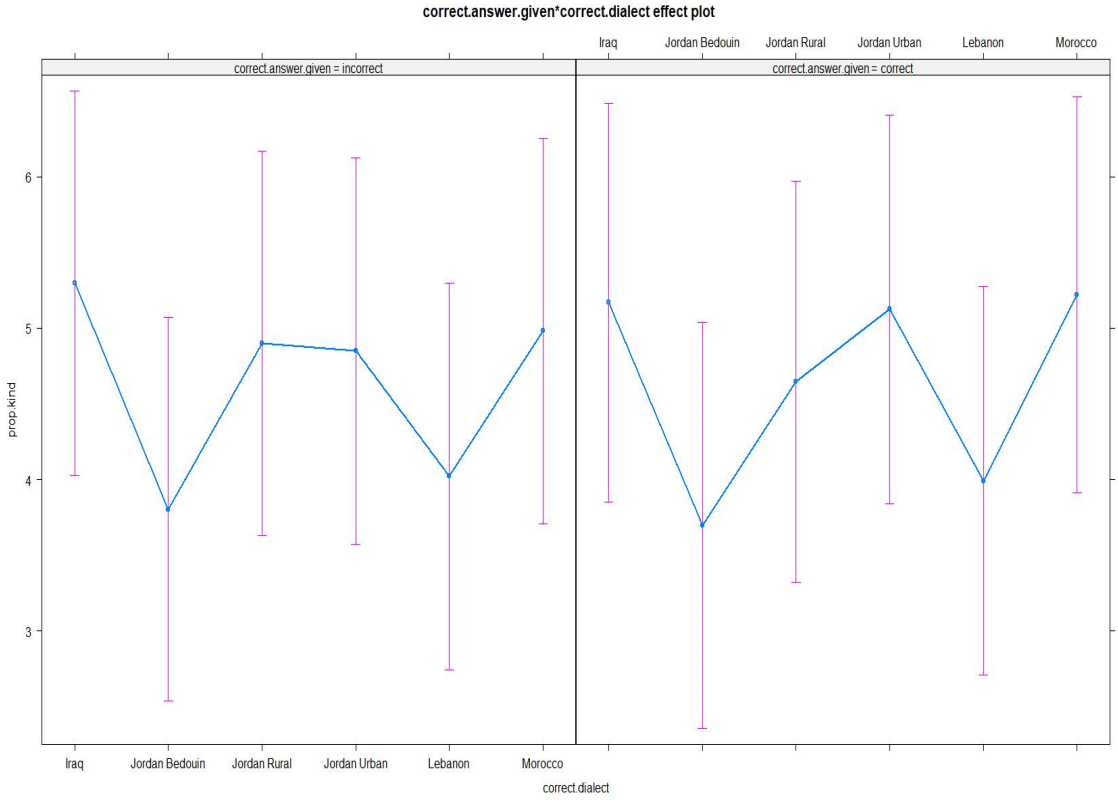
Jordan Rural	Incorrect	Arabic	Speaking	56	43.4
Jordan Rural	Correct	English	Reading	25	28.1
Jordan Rural	Incorrect	English	Reading	64	71.9
Jordan Rural	Correct	English	Speaking	27	27.6
Jordan Rural	Incorrect	English	Speaking	71	72.4
Jordan Urban	Correct	Arabic	Reading	62	46.6
Jordan Urban	Incorrect	Arabic	Reading	71	53.4
Jordan Urban	Correct	Arabic	Speaking	76	58.9
Jordan Urban	Incorrect	Arabic	Speaking	53	41.1
Jordan Urban	Correct	English	Reading	42	47.2
Jordan Urban	Incorrect	English	Reading	47	52.8
Jordan Urban	Correct	English	Speaking	29	29.6
Jordan Urban	Incorrect	English	Speaking	69	70.4
Lebanon	Correct	Arabic	Reading	62	46.6
Lebanon	Incorrect	Arabic	Reading	71	53.4
Lebanon	Correct	Arabic	Speaking	64	49.6
Lebanon	Incorrect	Arabic	Speaking	65	50.4
Lebanon	Correct	English	Reading	13	14.6
Lebanon	Incorrect	English	Reading	76	85.4
Lebanon	Correct	English	Speaking	11	11.2
Lebanon	Incorrect	English	Speaking	87	88.8
Morocco	Correct	Arabic	Reading	40	30.1
Morocco	Incorrect	Arabic	Reading	93	69.9
Morocco	Correct	Arabic	Speaking	99	76.7
Morocco	Incorrect	Arabic	Speaking	30	23.3
Morocco	Correct	English	Reading	8	8.99
Morocco	Incorrect	English	Reading	81	91.0
Morocco	Correct	English	Speaking	6	6.12
Morocco	Incorrect	English	Speaking	92	93.9

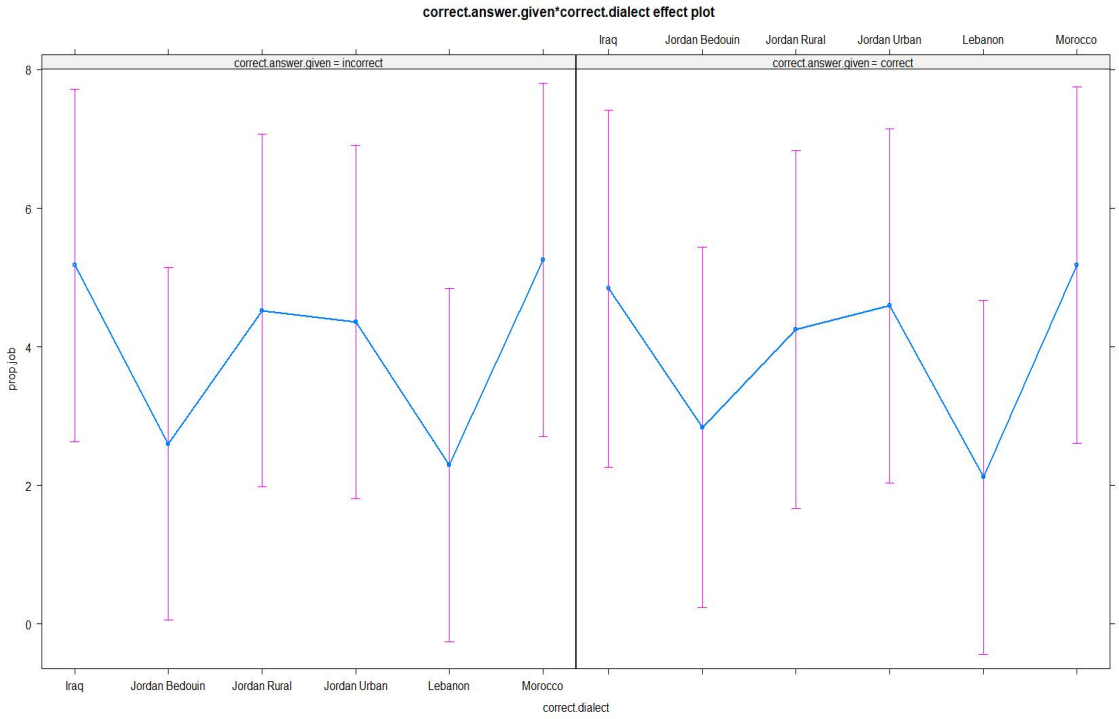
Appendix E

Figures that converged but showed no significant interactions in Arabic and English of both styles.

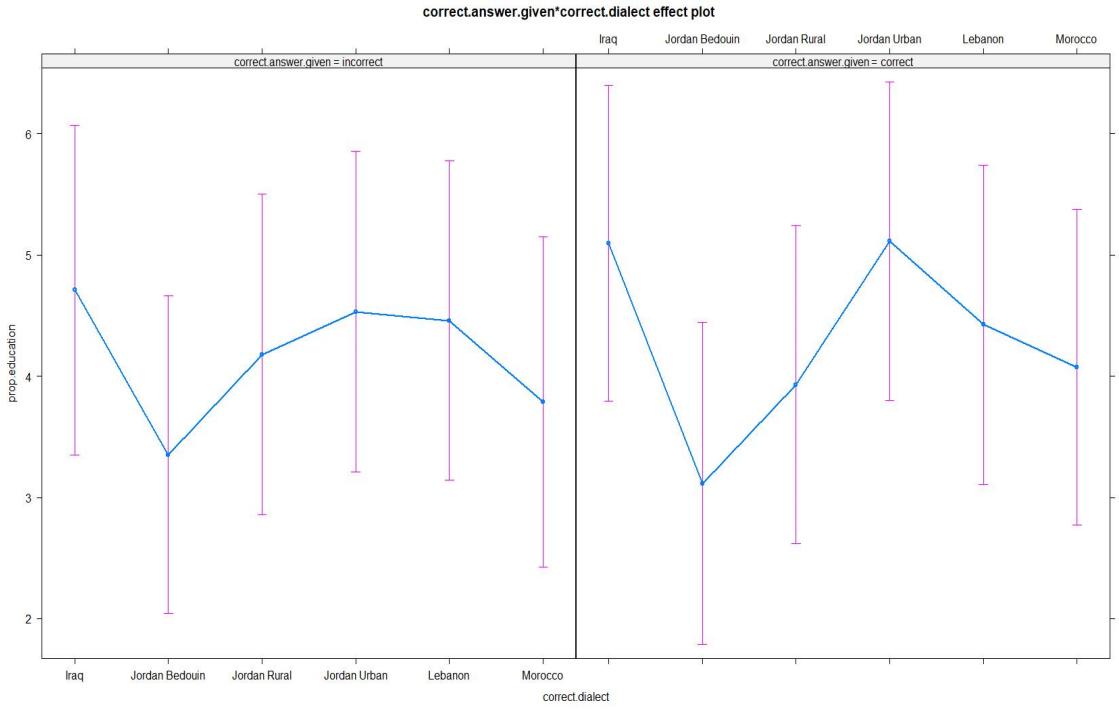
I included figures that converged and show only no significance, failed to converge are not included in appendix E

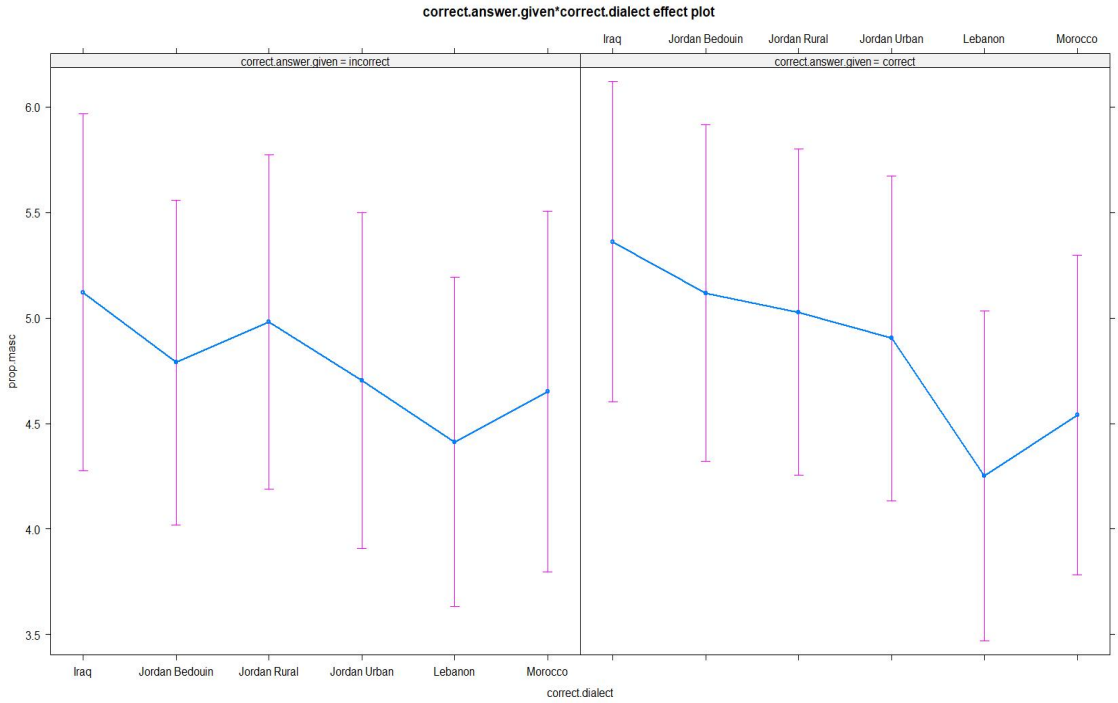
Arabic Reading



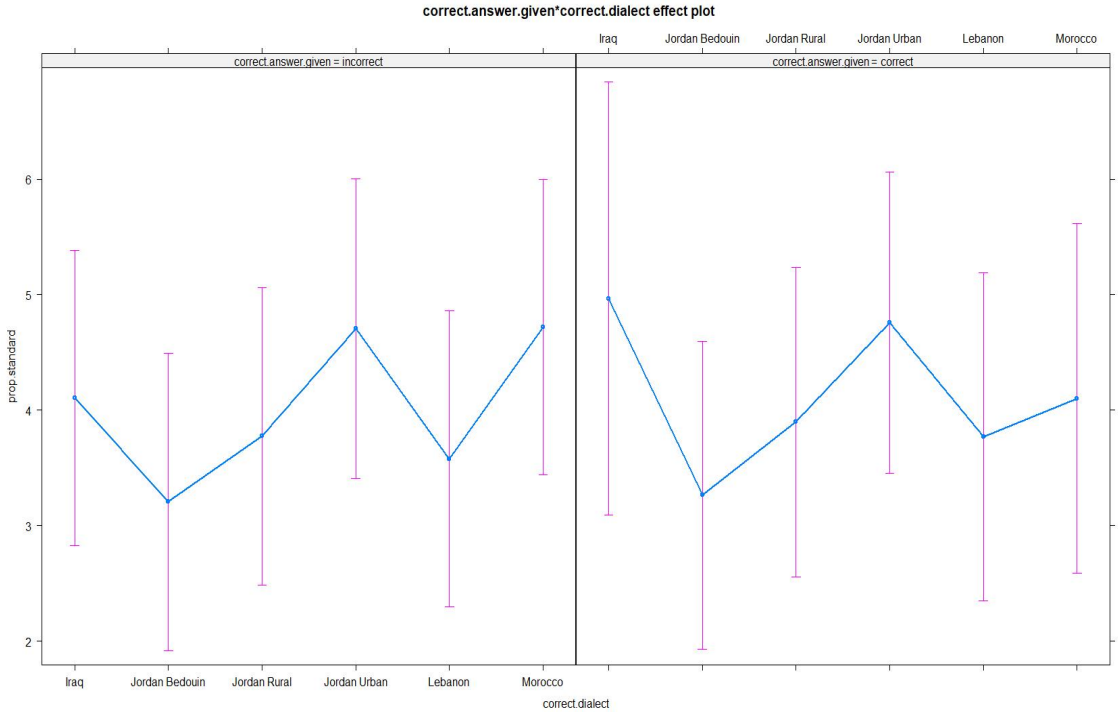


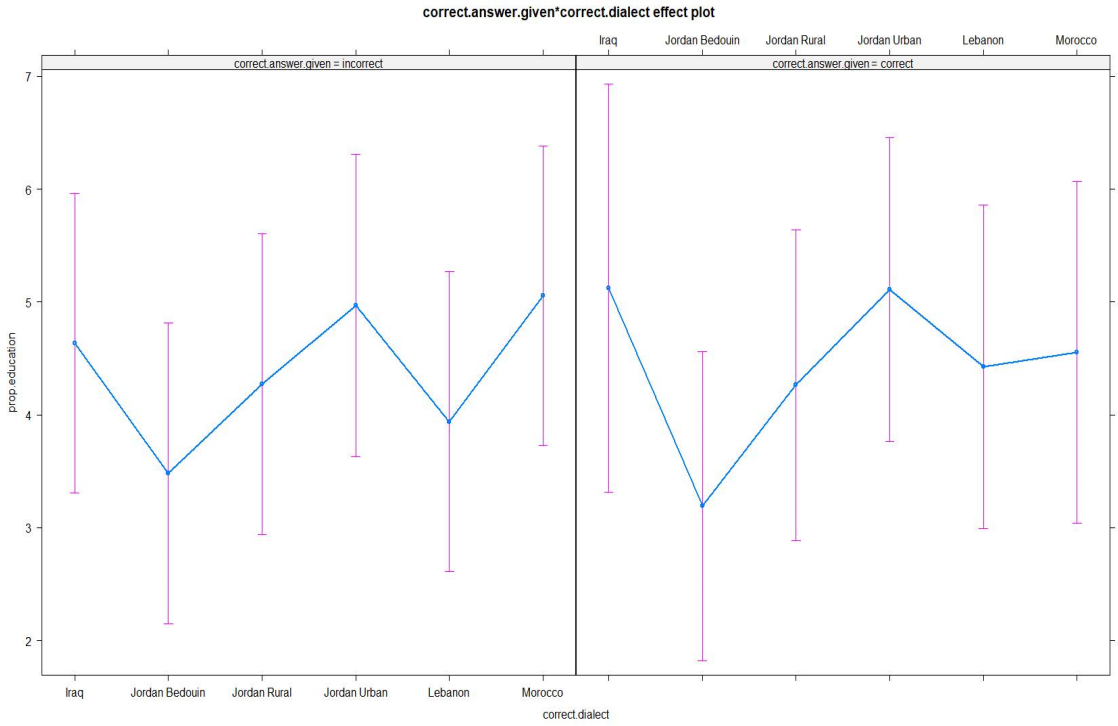
Arabic Speaking



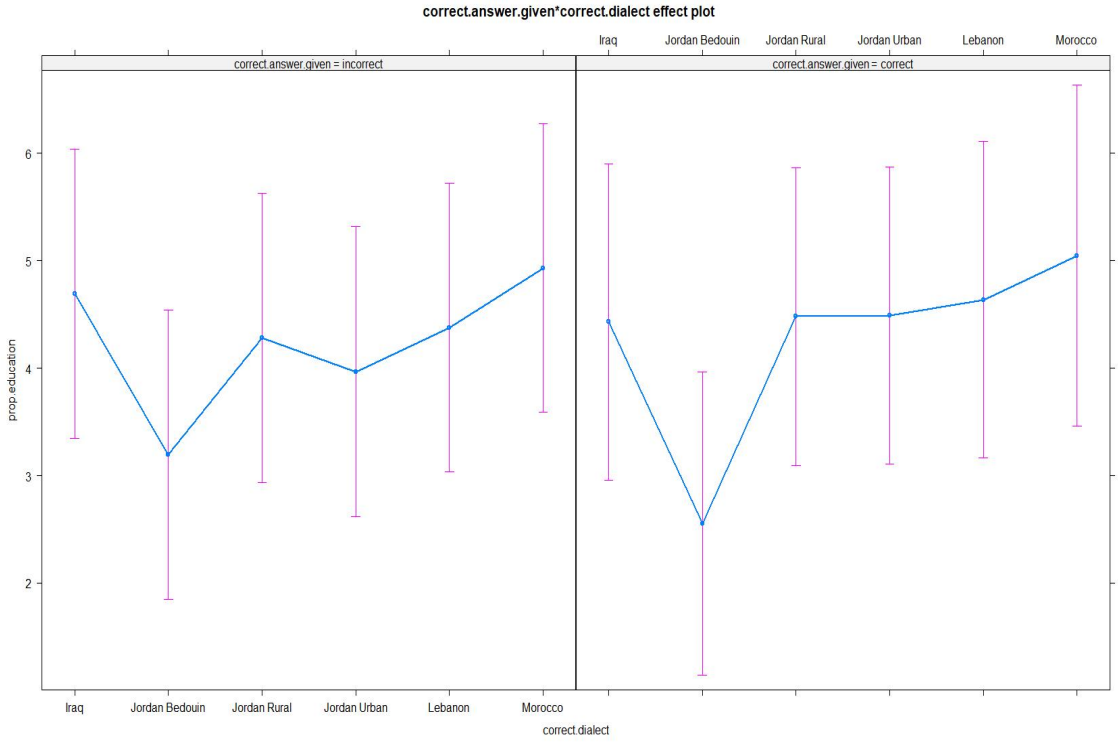


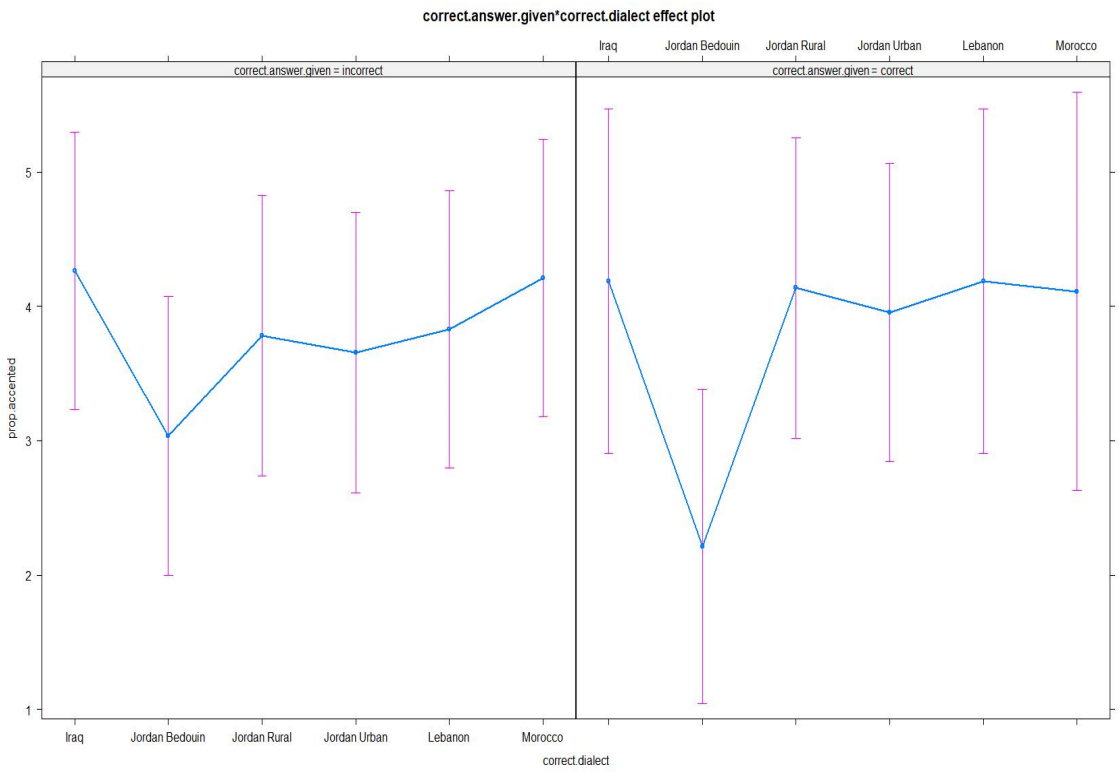
English Reading





English Speaking




correct.answer.given*correct.dialect effect plot
Iraq
Jordan Bedouin
Jordan Rural
Jordan Urban
Lebanon
Morocco
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4
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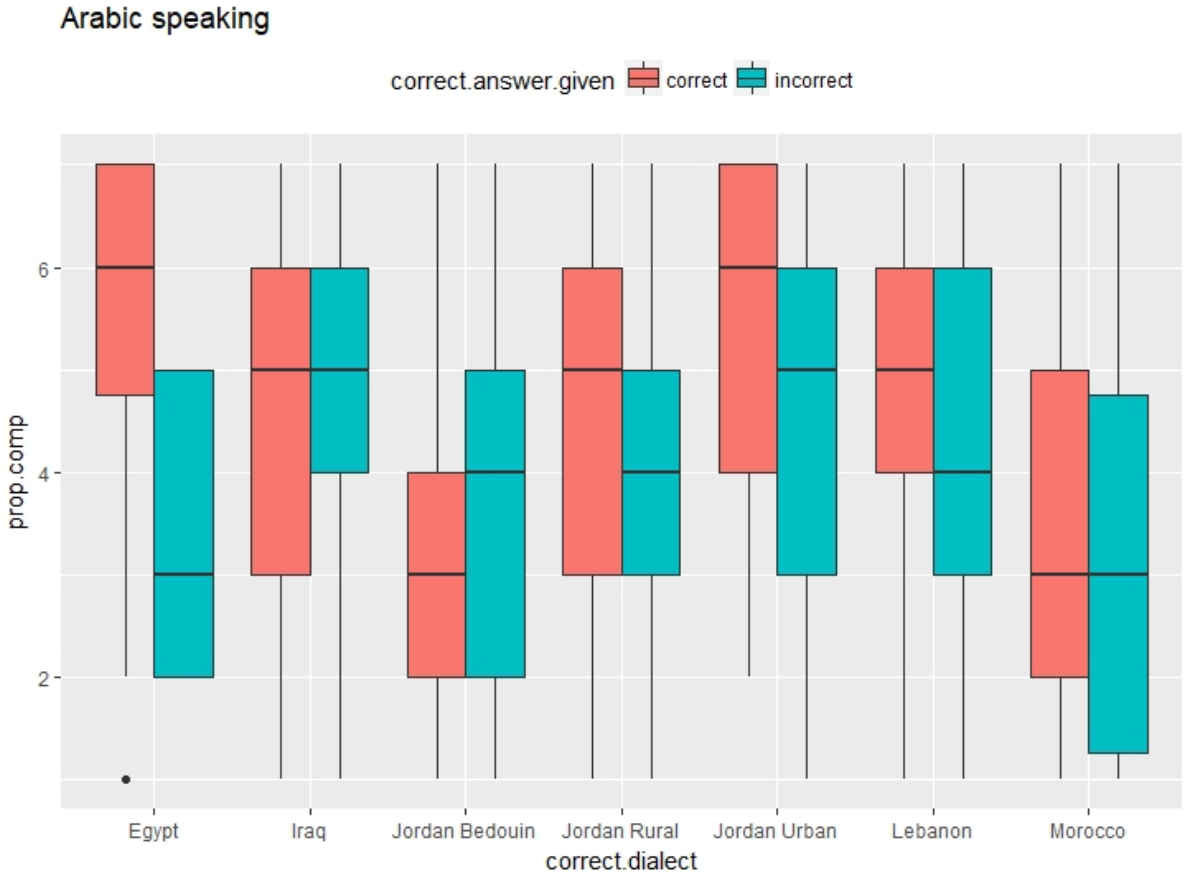
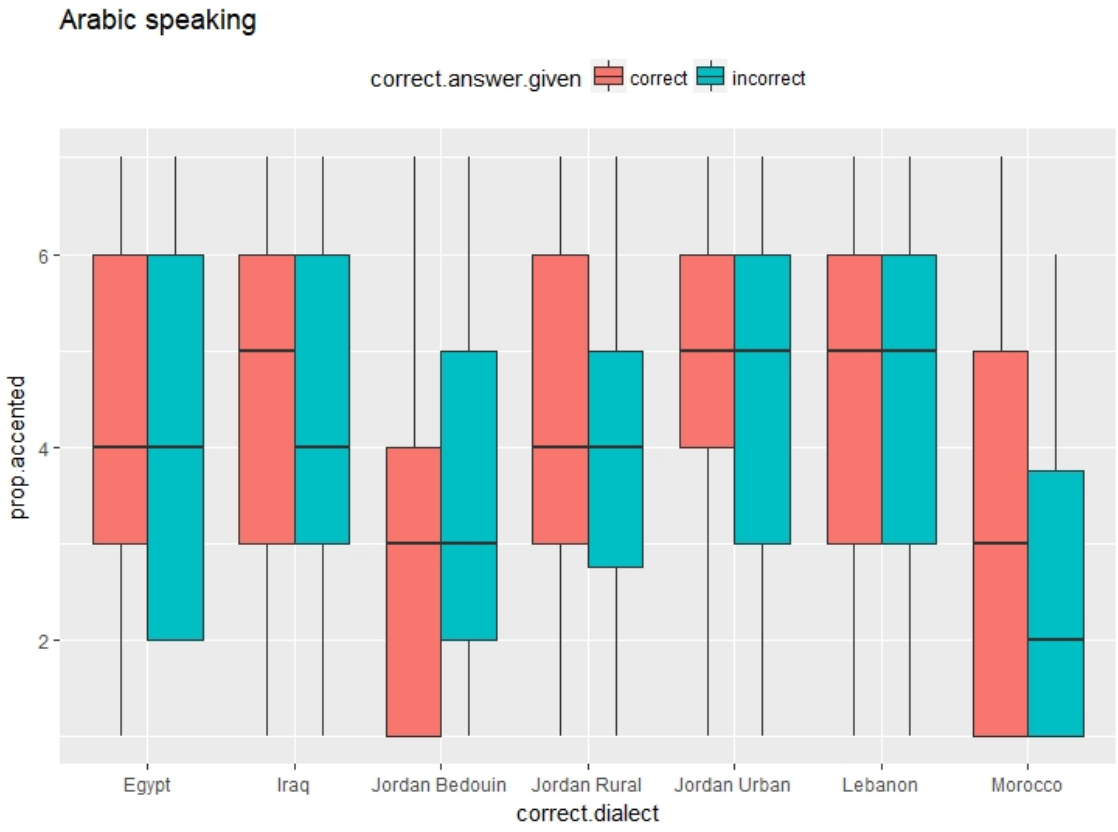
Jordan Bedouin
Jordan Rural
Jordan Urban
Lebanon
Morocco
correct.dialect

Appendix F

Boxplots that show correct and incorrect responses of comprehensibility and accentedness in Arabic and English




Arabic speaking
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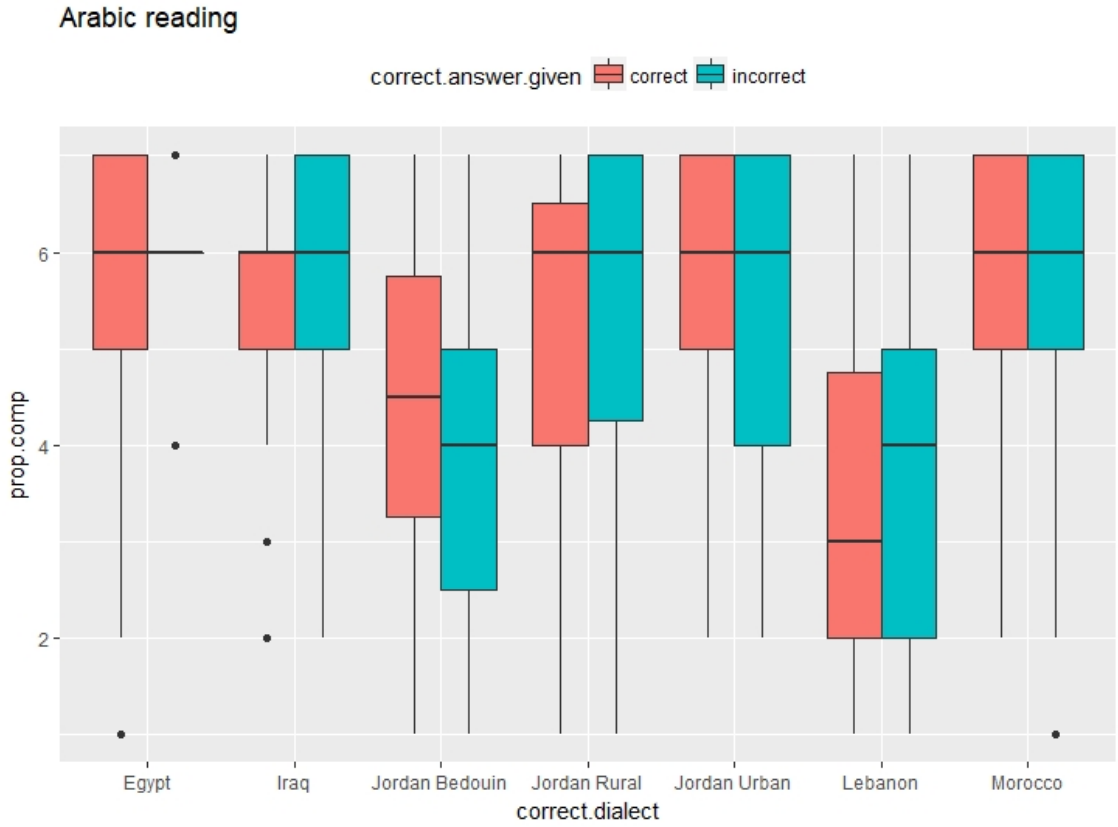
Jordan Bedouin
Jordan Rural
Jordan Urban
Lebanon
Morocco
correct.dialect


Arabic reading
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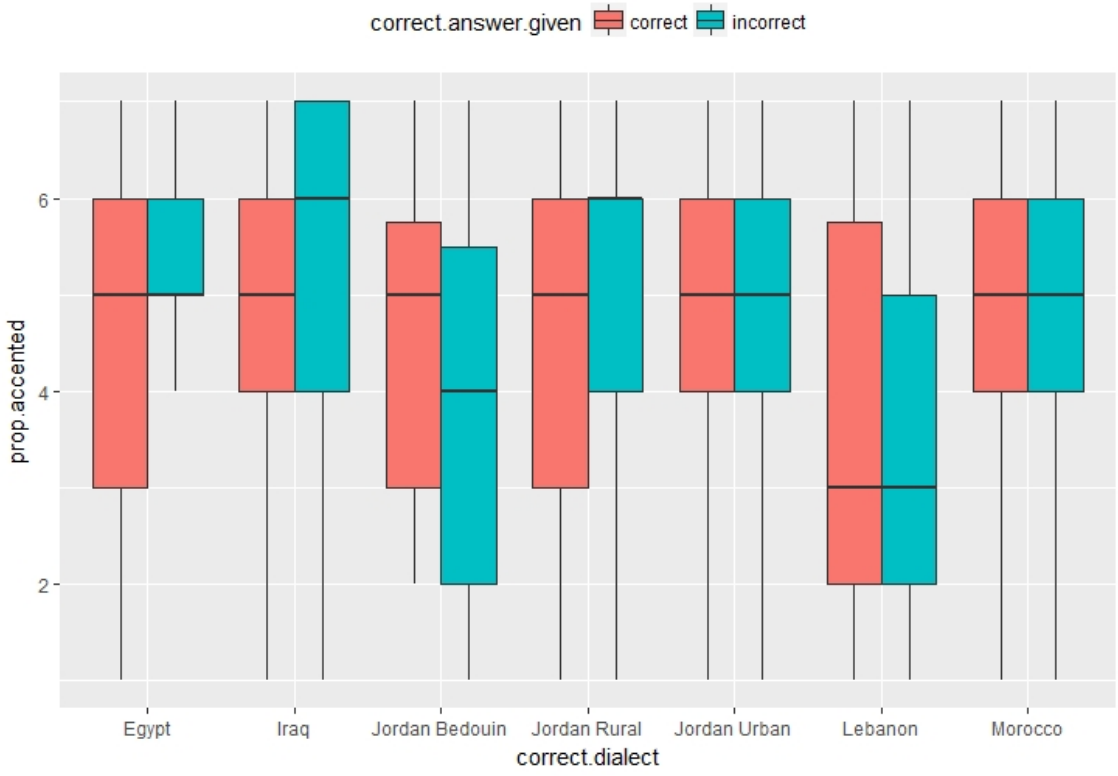
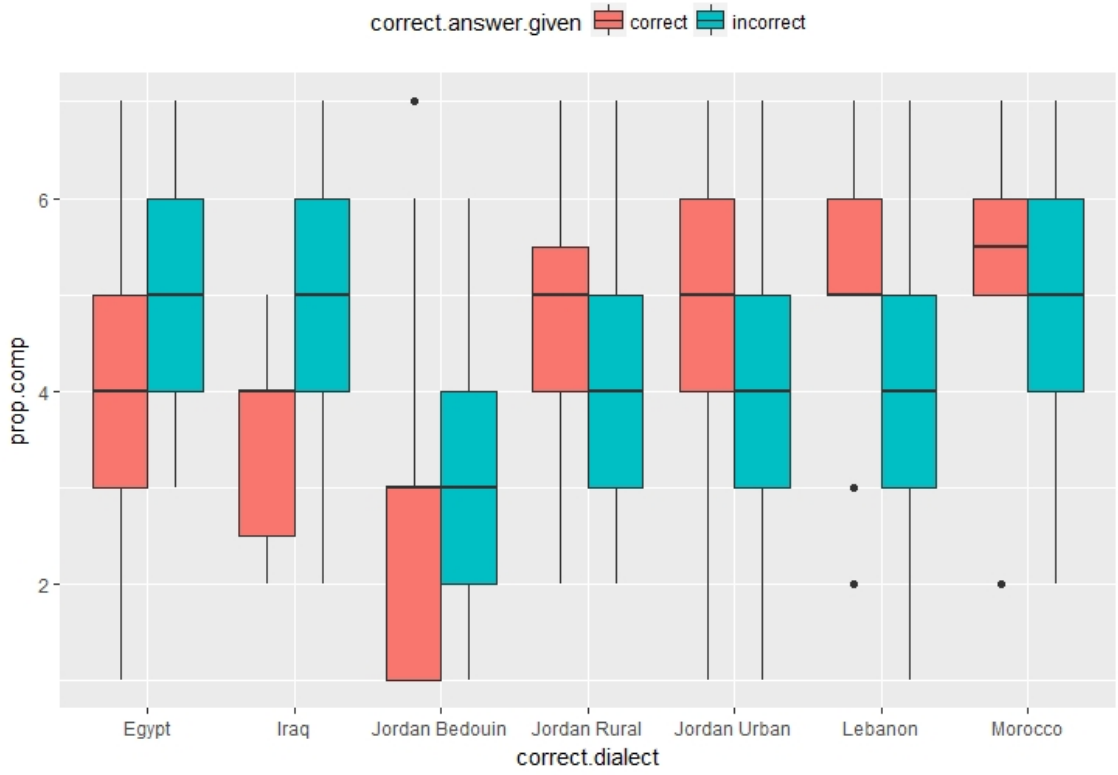
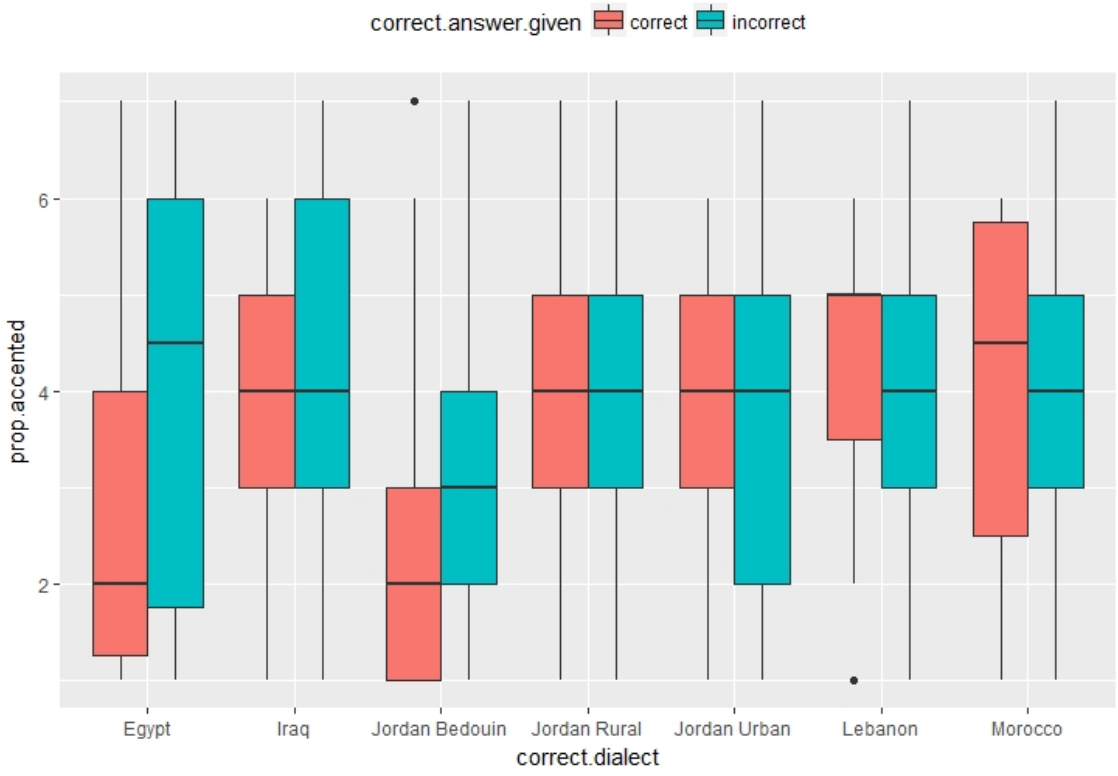
Arabic reading



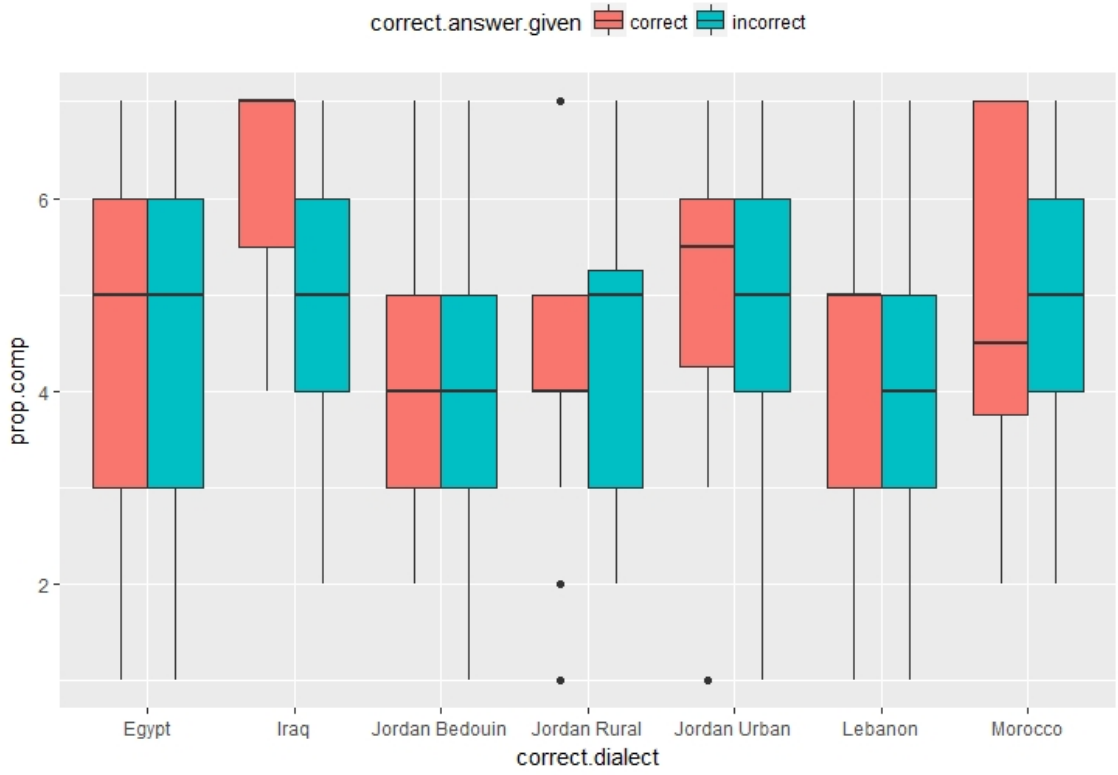
English speaking



English speaking



English reading




English reading
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Jordan Urban
Lebanon
Morocco
correct.dialect